UNTHANKS ROAD,
NORWICH.

7 March 1896

Dear Sir,

In reply to your communication, I shall be very pleased to send you a copy of my Report for the past year. As I was not appointed till Dec 9th last I have not yet been able to complete it.

I am, dear Sir
Yours faithfully,
J.W. Richardson
M.O.H.
Erpingham Rural Dist

for the Library of the
Brit. Med. Assocⁿ
with compts
H.C.P.

ANNUAL REPORT

UPON THE

HEALTHINESS OF THE CITIZENS,

AND UPON THE

SANITARY CONDITION

OF THE

CITY OF NORWICH

FOR THE YEAR

1895.

BY

H. COOPER PATTIN,

GRADUATE IN ARTS, MEDICINE, AND SURGERY,
AND A DIPLOMATE IN PUBLIC HEALTH OF THE UNIVERSITY OF CAMBRIDGE,
AUTHOR OF "THE RITUAL OF HEALTH,"
PHYSICIAN TO THE HOSPITAL FOR INFECTIOUS DISEASES
AND
MEDICAL OFFICER OF HEALTH.

NORWICH:
PRINTED BY EDWARD BURGESS, PRINTER TO THE CORPORATION.

"I cannot tell what you and other men think of this life; but for my single self—I'd as lief not be, as live to be in awe of such a thing as I myself."

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CITY OF NORWICH.

SANITARY COMMITTEE.

Mayor:

Mr. Councillor J. MOORE.

Chairman:

Mr. Alderman LADELL.

Vice-Chairman:

Mr. Councillor BREESE.

Members:

Mr. Councillor J. L. N. BARNARD.
,, ,, W. BATTERBEE.
,, ,, S. EASTER.
,, ,, J. R. GALLARD.
,, ,, J. JENKINSON.
,, ,, C. H. A. LOCK.
,, ,, J. MASON.
Mr. Councillor S. A. MORGAN.
,, ,, C. E. MURIEL.
,, ,, R. MURRELL.
,, ,, W. SHORTEN.
,, ,, J. H. STACY.
,, ,, A. M. STEVENS.
,, ,, J. WILLIMENT.

ISOLATION HOSPITAL.

Sub-Committee:

The CHAIRMAN, VICE-CHAIRMAN, Messrs. BARNARD, MASON, MURIEL, STACY, and STEVENS.

Matron: LILLA JUSTINE BAYNE.

PREFACE.

TO THE CHAIRMAN AND MEMBERS OF THE NORWICH URBAN SANITARY AUTHORITY.

GENTLEMEN,

By a General Order of the Local Government Board, dated 23rd March 1891, it is prescribed that every Medical Officer of Health shall:—

"Make an Annual Report to the Sanitary Authority up to the end of December in each year, comprising a summary of the action taken, or which he has advised the Sanitary Authority to take, during the year for preventing the spread of disease, and an account of the sanitary state of his district generally at the end of the year.

"The Report shall also contain an account of the enquiries which he has made as to the conditions injurious to health existing in the district, and of the proceedings in which he has taken part, or advised under any statute, so far as such proceedings relate to those conditions.

"Also an account of the supervision exercised by him, or on his advice, for sanitary purposes, over places and houses that the Sanitary Authority have power to regulate, with the nature and results of any proceedings which may have been so required and taken in respect of the same during the year.

"The Report shall also record the action taken by him, or on his advice, during the year in regard to offensive trades, to dairies, cow sheds, and milk shops and to factories and workshops.

"The Report shall also contain tabular statements of the sickness and mortality within the district, classified according to diseases, ages and localities."

This Report is made in fulfilment of the above regulations.

I am happy in again finding myself impelled to place on record my indebtedness to my subordinates for most cheerful and ready assistance. The Chief Inspector, as usual, has proved a most valuable helper, and in turn, the Assistant Inspectors, and the Office Clerks, Messrs. Hardy and Sales have rendered to me loyal services. I continue to account myself fortunate in having such willing colleagues.

The Matron and the Nurses of the Fever Hospital are entitled as before to my sincere and grateful thanks for duties admirably performed under trying circumstances; it is to the care and attention which they have bestowed on our patients that the successful results of the Hospital, as contrasted with home treatment of fever cases must be attributed.

I must ask readers of this Report who wish to institute comparisons with those of the two preceding years to kindly refer to my Reports for the years 1893 and 1894 when perusing this one. I have felt that I could not justifiably take up the large amount of space that would be required for such a purpose, by making lengthy quotations, etc.

I have again to thank the Chairman, the Vice-Chairman, and the Members of the Sanitary Committee for much personal kindness, for the most cordial assistance, and for many gratifying indications of their confidence, and have the honour to be, Gentlemen,

Your obedient Servant,

April 25th, 1896. **H. COOPER PATTIN.**

METEOROLOGICAL NOTES.

Summary for the Year 1895.

(*By Arthur W. Preston, Esq.,* F. R. Met. Soc.*)

"The following tables show the mean temperature and rainfall for the four seasons, together with those of the previous year, and of a 20 years' approximate average :—

	TEMPERATURE.			RAINFALL IN INCHES.		
SEASONS.	1895.	1894.	20 YEARS' AVERAGE.	1895.	1894.	20 YEARS' AVERAGE.
Winter (Dec. to Feb.)	34·7	39·2	37·8	7·35	4·81	6·02
Spring (March to May)	47·6	47·7	46·2	4·15	5·62	5·21
Summer (June to August) ...	60·4	59·3	60·2	7·51	8·74	7·17
Autumn (Sept. to Nov.)	51·4	50·1	49·5	7·13	7·12	8·50
Year	41·4	49·3	48·4	24·91	27·32	26·90

It will be seen that the winter was much colder than usual, although not quite so cold, owing to the warm December, as in 1891. The other seasons were somewhat warmer than the mean. The rainfall of the winter and summer was slightly excessive in each case, but the dry periods in the spring and autumn made the total rainfall for the year decidedly deficient. The mean temperature of the year was about the average, notwithstanding the intense cold of the first two months. The warm weather of March, April, May, September, and November counter-balanced the previous severity with the result that the excesses of cold and heat neutralised each other. The rainfall was about 2 inches below the average, and although September was the driest month, the long-continued want of rain in April, May, and June was severely felt, and affected vegetation to an extent which did not admit of complete recovery. There were however so many meteorological features of an abnormal character that the year will not be easily forgotten. The frost in the early months, though on the mean not quite so severe as in the winter of 1890-91, was of greater intensity on some nights and did more damage; the winter was certainly one of the most severe ones of the present century. Next came the great hurricane of March 24th, when the wind blew with a fury unparalleled within living memory, and which will leave its marks for some years to come. The summer was one of the finest, warmest, and longest for many years, and yet there was no exceptional heat as in August, 1893. The warm weather at the end of September was by no means the least remarkable feature of the year, and the great cold at the end of October, the warmth in the middle of November, and the violent gales in that and the following month must be noted in a summary for a year presenting so many exceptional features.

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* To whom I am also indebted for the mean weekly temperatures quoted on Charts I and II.

The following brief summary of the principal meteorological features of each month, has been kindly furnished at my request, by Mr. Preston, in addition to the summary for the seasons of the year.—H.C.P.

January.—Very wintry. Snow registered on 18 day. Temperature nearly 5° below average.

February —With exception of 1855, coldest February for over 100 years. Snow on ground almost throughout, frosts 27 nights Thermometer fell below 20° on nine nights, and below 10° on three, the lowest being 4° on the 7th. On the grass it fell below zero on three occasions. On the 7th it fell to *minus* 3·5° at Brundall, and to *minus* 12° at Cringleford.

March.—Severe wintry weather, broke up on the 6th, and remainder of month was much milder. Terrific gale occurred on 24th.

April.—Fine, warm, "growing" month, rainfall below average, but mean temperature about a degree above. The third warm April in succession, a pleasing change from the six cold Aprils, 1887-92.

May.—Began in fine bright weather, but with cold north-easterly winds, which changed to warmer breezes on the 6th, producing magnificent summer-like days for so early a period of the season. An extraordinary change occurred on the 16th, when temperature fell 28°, accompanied by a chilling northerly wind, and showers of sleet and hail, which tore to shreds the young leaves on the north side of the trees. Weather subsequently became warmer and on the 30th the thermometer reached 80°.

June.—Exceedingly dry despite local showers in places. The total rainfall at Brundall was ·85 inch, and at Heigham, Norwich ·58 inch. At the former station ·40 inches were registered in less than half an hour during a thunderstorm on the 27th, whereas not a drop of rain fell at the latter. A fine sunny month, mean temperature up to average.

July.—First 17 very days fine and warm, much sunshine, little rain, ground parched. Last fortnight still warm, but very showery, 2¼ inches of rain falling in 11 days. Thunder on the 19th, 21st, and 22nd, but storms slight compared with those of previous July. Mean temperature averaged by singular coincidence, precisely same as in two previous years.

August.—First fortnight rainy, remainder remarkably fine and warm except for a severe thunderstorm on 22nd, and some squally showers on the 27th. Mean temperature about a degree above average, and 2½ degrees warmer than the previous August.

September.—So remarkable as to be long remembered. Fine warm weather with which August ended continued, and the thermometer reached 70° on each of the first ten days; on the 2nd a maximum of 81° was attained. Thunderstorms on the 3rd and 6th, the latter yielding ·41 inch of rain, which was within ·05 inch of the month's total rainfall. The third week was fine and warm, but heat not excessive. The chief feature, however, was the last week which was probably the warmest week so late in the year on record. The thermometer went considerably beyond 70° each day, on the 25th it rose to 79°, and on the 26th to 80°. During this time the sky was practically cloudless, and the heat, particularly indoors, quite disconcerting, as from the low declination of the sun its rays penetrated into dwellings in the hottest part of the day, to a far greater extent than they did in June or July, when the sun was nearly overhead Measurements of the amount of sunshine show that the excess was greater during this month than any previously recorded. Rain fell on three days only. The mean temperature for the whole month was about 4° above the average, less, however, than in 1865, when there were more warm days and no rain whatever, although the last week was not then so warm as the three earlier ones had been. The only other instance during the present century, of a reading in East Anglia of 80° during the last week of September, occurs in 1832 when the thermometer touched that value on the 25th and 26th.

October.—This month also presented features of unusual meteorological interest, having had the warmest day and the coldest night observed in any October for a great number of years. On the 1st the temperature reached 75° in the shade, an altitude not recorded in East Anglia since 1859, although in 1886 there was a reading which closely approached it. On the 2nd change set in, and at 9 a.m. on the 3rd the thermometer was 31° lower than on the afternoon of the 1st. A change all the more noticeable because of the temperature of the previous fortnight having been of unusual uniformity. Cool rainy weather followed until the middle of the month, when it became drier, though cold for the season. Winterly conditions of a severity quite unusual before the end of November or the beginning of December, set in on the 22nd and continued until the end of the month. During this period the thermometer never exceeded 47° by day, and it fell below the freezing point in the screen on six successive nights. The lowest readings being in the screen 25·4° on the 28th and 25° on the 28th; and on the grass 17° on the 28th or 15° of frost. Much cold rain and sleet fell at times, and on the 29th there was a fall of snow both in large flakes and of granular type. Vegetation was markedly injured—trees in full leaf on the morning of the 28th were completely stripped by the evening of the 28th, and blooming dahlias transformed into blackened masses.

November.—The mean temperature for this month was about 4° above the average and 9·6° higher than in the preceding November. The month, indeed, was the mildest November since 1881; on the 16th the thermometer reached 62·8, which appears to have been the warmest day recorded in November since 1857, when the thermometer rose to 64° on the 3rd and to 63° on the 5th. The rainfall was about the average. There were several destructive gales, and from the 23rd to 25th it blew with gale force almost continuously. The month ended in gloomy damp unpleasant weather.

December.—A very stormy unsettled month with slight frost at times, and many gales of a violent character. Though the rainfall was 0·5 inch below the average, the air was on many days excessively humid, particularly at the end of the month, when fog and mist prevailed day after day. The mean temperature for the whole month was slightly above the average, albeit, it was a colder December than the last. There was little snow. A furious blast from the east on Christmas Day made the weather exceedingly discomforting and, indeed, after the 23rd the sun was almost invisible until the end of the year.

DEMOGRAPHICAL STATISTICS.

" He apprehends a world of figures here."

Enumerated Population at the Census of 1891	100,970
Estimated Population in the middle of 1895	107,127
Area in Statute Acres	7,558
Density of Population (*i.e.*, number of persons per acre)	14·2
Average number of persons per acre in the 33 great towns	35·3
Total number of Births registered in 1895	3,398
Representing a Birth-rate of	31·7 per 1,000
Average Birth rate of the 33 great towns being	31·3 „
Total number of Deaths registered	2,066
Representing a gross recorded Death-rate of	19·2 per 1,000
Deducting Deaths in Norwich of 31 non-residents	19·0 „
* " Corrected Death rate " for the year	18·3 „
† Average Death-rate in the 33 great towns	20·6 „
Average Norwich Death-rate for 10 years, 1885 to 1894 (inclusive)	20·2 „
Deaths from the seven principal Zymotic Diseases numbered	291
Representing a Zymotic Death-rate of	2·7 per 1,000
Average Zymotic Death-rate in the 33 great towns being	2·8 „
Death-rate from *all* the Zymotic Diseases, including Influenza, was	3·0 „
Or excluding Influenza	2·72 „

The Deaths of Norwich Citizens from Zymotic Diseases included :—

	Scarlet Fever.	Diphtheria.	Enteric Fever.	Measles.	Whooping Cough.	Diarrhœa.	Puerperal Fever.	Erysipelas.	Influenza.
Under 5 years of age	3	10	4	27	53	150	0	0	2
Over 5 years of age	7	9	20	0	0	6	4	2	27

A glance at the above table will show how very large a proportion of the deaths occurred in children under five years of age, and also how great a number of these succumbed to Measles, Whooping Cough and Diarrhœa.

The Death-rate from the notified Infectious diseases was	0·5 per 1,000
„ „ un-notified Infectious Diseases, including the Tuberculoses and Influenza, was	4·8 „

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* The "Corrected Death-rate" signifies the death-rate which would obtain in Norwich if the local age and sex distribution were the same as those of the country generally.

† Estimated from the Registrar-General's Quarterly Reports.

The Deaths under one year of Age numbered 653, representing a death rate of 6 per 1,000 of the population at all ages.

The Infant Mortality Rate (*i e.,* the proportion of deaths under one year of age to every 1,000 births) was ... ... 191·0

In the 33 great towns it averaged ... ... 182·5*

This is, for us, a less satisfactory result than last year. A special report gives more detailed information.

The Death-rate between the ages of 1 *and* 5 *years* was 2·1 per 1,000 of the population at all ages.

The Death-rate between the ages of 1 *to* 60 was* ... ... 8·5 per 1,000 living.

The average rate in the 33 great towns being ... ... 11·1 „ „

The Death-rate at and above 60 *years of age* was*... ... 64·5 „ „

The average rate in the 33 great towns being ... ... 79·4 „ „

These remain gratifying features; and again proved the accuracy of the estimate I made in 1893, viz., that we had in Norwich a higher proportion of elderly people than was to be found in the other great towns—a testimony in itself to the life-prolonging influence of the Norwich climate *for those who survive their first quinquennium.*

The Registrar-General not having, as yet, issued his Annual Report I am unable to give special rates of 33 great towns.

NORWICH:
SPECIAL DEATH RATES FOR 1895.

	Per 1,000 of the population at all ages.
From all Tuberculous Diseases	2·4
„ Tuberculosis of the Lungs (Phthisis)	1·4
„ Respiratory Diseases excluding Phthisis	2·5
„ Heart Diseases	1·5
„ Scarlet Fever	0·09
„ Diphtheria	0·18
„ Enteric (Typhoid) Fever	0·22
„ Puerperal Fever	0·04
„ Erysipelas	0·02
„ Measles	0.25
„ Whooping Cough	0·5
„ Diarrhœa	1·4
„ Rheumatic Fever	0·1
„ Influenza	0·27

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* Estimated from the Registrar-General's Quarterly Reports.

Inquest cases amounted to 6·25 per cent. of deaths from all causes.

In the 33 great towns the average was 7·1 per cent.

Deaths in Public Institutions amounted to 13·3 per cent.

In the 33 great towns the average was 19·4 per cent.

Uncertified deaths (*i.e.*, death certificate not signed by a registered Medical Practitioner) amounted to 1·6 per cent.

Average in 33 great towns, 1·5 per cent.

The 2,066 deaths from all causes registered in 1895 were distributed as follows :

	At all Ages.	Under 1 year.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards.
East Wymer ...	890	350	117	22	39	168	194
*West Wymer ...	1146	303	115	54	49	288	339
Deaths occurring within the district among persons not belonging thereto	31	1	3	4	4	12	7

At the Census in 1891, East Wymer contained †47,936 people; *West Wymer, 53,034. Assuming the rate of increase to have progressed in the same proportion in these districts, the population of each in the middle of 1895 would be (approximately): East Wymer, †50,859; West Wymer, 56,268.

DEATHS FROM ZYMOTIC DISEASES.

	Scarlet Fever.	Diphtheria.	Enteric (Typhoid) Fever.	Puerperal Fever.
In East Wymer ...	2	5	12	3
„ West Wymer ...	8	14	12	1

	Erysipelas.	Measles.	Whooping Cough	Influenza.	Diarrhœa.
In East Wymer ...	1	9	34	15	79
„ West Wymer ...	1	18	19	14	77

The Deaths from Tuberculous Diseases were distributed :

In East Wymer from Phthisis 58. Other Tuberculous Diseases 57.
„ West Wymer „ 98. „ „ 42.

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* The Norfolk and Norwich, Jenny Lind, and Isolation Hospitals, and the Union Infirmary are all in the West Wymer Registration District.

† Conisford and Coslany are now included in the East Wymer Registration District.

The Deaths from Lung Diseases, excluding Phthisis (Tuberculosis of Lungs, commonly called "Consumption") occurred:

In East Wymer	115	From Heart Diseases	49
„ West Wymer	156	„ „	112

The Registered Births numbered in East Wymer, 1,623; West Wymer, 1,775.

The following Deaths occurred in Public Institutions:

	At all ages.	Under 1 year.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards.
Norfolk and Norwich Hospital	112	3	15	14	15	46	19
The Union Infirmary ...	108	5	3	0	0	26	74
The Isolation Hospital...	4	0	1	3	0	0	0
Jenny Lind Infirmary ...	14	3	7	4	0	0	0
*The Prison	2	0	1	0	0	1	0
The Barracks	7	4	1	0	2	0	0

I have prepared differentiated death-rates (see overleaf) for the separate Parishes in the City; these "special area" death-rates will, I trust, apart from their statistical interest, lead the Sanitary Authority to devote special attention to the most insanitary of the districts under its jurisdiction.

Comparing East Wymer with West Wymer we get the following results:

The birth-rate in East Wymer was ... .. 31·8 per 1000 of the population at all ages.
„ „ West „ ... ... 31·5 „ „ „
The death-rate (from all causes) in East Wymer† was 17·5 „ „ „
„ „ „ West „ † was 20·3 „ „ „
The gross Zymotic death-rate in East Wymer was 3·1 „ „ „
„ „ „ West „ 2·9 „ „ „
The death-rate from Tuberculous Diseases in East Wymer was 2·2 „ „ „
„ „ „ West „ 2·7 „ „ „

Or, stating the same facts in words; East Wymer had a higher birth-rate, a lower general death-rate, and a higher death-rate from Zymotic and a lower death-rate from Tuberculous Diseases than West Wymer.

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* This institution retains its pre-eminence as the healthiest dwelling we provide for our people.
† Excluding deaths of non-residents.

DEATH RATES† PER 1,000 OF THE POPULATION (AT ALL AGES).

Estimated Population, 1896.	PARISH.	At all Ages.	Under 1 year.	1 and under 5.	65 and upwards	Zymotic Diseases.	Tuberculous Diseases.	Inquests.
749	All Saints	14·7	2·6	—	4·0	2·6	—	—
754	S. Andrew	**19·8**	2·6	–	**5·3**	1·3	1·3	1·3
2621	S. Augustine	13·4	**8·0**	**2·3**	1·1	**3·4**	**3·0**	—
2103	S Benedict	15·2	**6.6**	**2·3**	2·3	1·4	1·4	—
7288	S. Clement (without) S. Clement (within) ...	17·0	**8·5**	1·9	3·1	**3·3**	1·6	0·5
629	S. Edmund	**33·3**	**16·0**	**3·2**	**8·0**	**4·7**	**3·2**	1.6
791	S. Ethelred	17·7	**6·3**	**2·5**	2·5	—	**7·5**	1·3
1577	S. Geo. Colegate	**22·2**	5·7	**3·8**	**8·2**	**4·7**	0·6	0·6
699	S. Geo. Tombland ...	4·3	—	—	1·4	—	—	1·4
1422	S. Giles	10·5	4·2	0·7	2·1	**4·2**	0·7	2·1
599	S. Gregory	13·3	**6·6**	**5·0**	—	**3·3**	**5·0**	1·6
621	S. Helen (with the Great Hospital)	**33·8**	1·6	1·6	**27·2**	—	**3·2**	3·2
389	S J. Maddermarket ...	13·0	—	—	—	2.6	**5·2**	—
2902	S. J. Sepulchre	**20·3**	**8·0**	**3·1**	3·4	**7·6**	1·3	0.3
1118	S. J. Timberhill	**23·2**	**9.8**	1·7	4·4	**4·4**	**2·6**	1.3
1589	S. James	**29·0**	**15·1**	**4·4**	4·4	**8·8**	1·2	0.6
1848	S. Julian	15·1	6·0	2·1	3·7	2·7	1·6	0·5
515	S. Lawrence	9·6	1·9	—	3·8	—	1·9	—
605	*S. Margaret (with Jenny Lind Infirmary) ...	**43·0**	**9·9**	**13·2**	3·3	**6·6**	**8·3**	6·6
734	S. Martin-at-Palace ...	10·9	1·3	**2·6**	3·9	—	**5·2**	—
2575	S. Martin-at-Oak... ...	19·0	**8·5**	**2·3**	**6·5**	3·0	**3.0**	2·0
1201	S. Mary-at-Coslany ...	15·0	**6.6**	0·8	2·4	2·4	0·8	2·4
767	S Michael-at-Coslany ...	18·2	3·8	**3·8**	3·8	2·5	**3.8**	—

	All.	One.	1 to 5.	5 to 15.	65.	Zm.	Tub.	Inqt.
*Deducting deaths in Jenny Lind Infirmary ...	14	3	7	4	0	2	2	0
True rate for St. Margarets	**20.0**	4·9	1·6	0	3·3	**3·3**	**4 9**	0

†Heavier Type signifies *above the average* rate for the City as a whole.

DEATH RATES PER 1,000 OF THE POPULATION (AT ALL AGES).—*Continued.*

Estimated Population, 1896	PARISH.	At all Ages.	Under 1 year.	1 and under 5.	65 and upwards.	Zymotic Diseases.	Tuberculous Diseases.	Inquests.
168	S. Michael-at-Plea ...	11·9	5·9	—	5·9	—	—	—
1693	S. Michael-at-Thorn ...	18·9	6·5	1·2	6·1	4·4	2·7	0·6
4832	S. Paul	21·7	10·3	3·1	1·6	4·3	3·5	0·8
322	St. Peter-at-Hungate ...	25·0	6·2	9·3	6·2	12·5	3·1	—
2021	S. Peter Mancroft ...	13·8	3·8	0·5	3·4	0·9	1.9	1·9
2873	S. Peter-per-Mountergate ...	16·0	5·1	1·0	6·2	3·1	3·1	1·0
738	S. Peter Southgate ...	10·8	1·3	1·3	1·3	1.3	2·6	2·6
1448	S. Saviour	18·0	5·5	2·7	6·2	3·4	2·0	1·3
212	S. Simon & S. Jude ...	4·7	—	—	—	—	4·7	—
3804	*S. Stephen (with N. & N. Hospital)	35·7	3·1	5·5	7·3	3·9	3·9	7·6
734	S. Swithin	16·3	2·7	—	5·4	2.7	1·4	—
1962	Eaton	9·1	3·1	1·1	3·1	2·1	—	1·1
259	Earlham	19·2	3·8	—	11·4	—	—	3·8
31,930	†Heigham (with Union) ...	20·6	5·7	2·0	7·1	3·3	2·6	0·9
766	Hellesdon (part of) ...	9·1	1·3	—	3·9	—	—	1·3
3571	‡Pockthorpe (with Cavalry Barracks)	17·3	10·3	3·0	1·4	5·0	2·2	0·9
5587	§Thorpe Hamlet (with Brit. Barracks and Prison ...	13·4	2·8	1·4	3·2	2·2	1·2	2·8
307	Trowse, Carrow and Bracondale	9·7	—	—	6·4	—	3·2	—
520	Cathedral Precincts (S. Mary-in-Marsh)	11·5	—	1·9	7·6	3·8	—	—
20	On Boats and Barges (Wensum)	15·0	—	—	5·0	—	—	15·0
9184	Lakenham	17·2	5·5	1·5	4·3	2·6	1·8	0·6

	All.	One.	1 to 5.	65.	Zm.	Tub.	Inqt
*Deducting deaths in Norfolk and Norwich Hospital ...	112	3	15	19	1·9	8	2·9
True rate for S. Stephen's	6·3	2·3	1·4	2·3	0·5	5·5	0.0
†Includes St. Bartholomew, St. Philip, Trinity, and St. Thomas. Heigham (deducting deaths in Workhouse and Isolation Hospital) true rate	15·6	5·5	1·8	4·8	3·1	2·1	0
‡Pockthorpe true rate (deducting Cavalry)	20·0	12·0	3·6	1·6	6·0	2·6	1·0
§Thorpe Hamlet true rate (deducting Infantry) ...	14·6	7·2	2·0	3·5	2·3	1·3	1·5

DEATHS IN SEPARATE PARISHES.

Enumerated Population at 1891 Census.	PARISH.	At all Ages.	Under 1 year.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and up-wards	Zymotic diseases.	Tuberculous diseases	Respiratory diseases.	Heart diseases.	Inquests.
706	All Saints	11	2	—	—	2	4	3	2	—	—	—	—
720	S. Andrew	15	2	—	—	—	9	4	1	1	2	5	1
2419	S. Augustine	35	21	6	—	—	5	3	9	8	3	3	—
1982	S. Benedict	13	14	5	—	—	8	5	3	3	7	4	—
6876	S. Clement (without) S. Clement (within) ...	123	61	13	3	8	15	23	24	12	15	6	4
593	S. Edmund	21	10	2	—	—	4	5	3	2	4	3	1
745	S. Ethelred	14	5	2	1	2	2	2	—	6	1	1	1
1486	S. Geo. Colegate ...	35	9	6	1	2	4	13	8	1	5	5	1
658	S. Geo. Tombland ...	3	—	—	—	2	—	1	—	—	1	1	1
1346	S. Giles	15	6	1	2	—	3	3	6	—	1	—	3
565	S. Gregory	8	4	3	—	—	1	—	2	3	—	1	1
585	S. Helen (with the Great Hospital)	21	1	1	—	1	1	17	—	2	2	—	2
367	S. J. Maddermarket ...	5	—	—	—	1	4	—	1	2	—	—	—
2734	S. J. Sepulchre	59	23	9	3	2	12	10	22	4	10	3	1
1054	S. J. Timberhill	26	11	2	—	1	7	5	5	3	4	2	1
1497	S. James	46	24	7	1	1	6	7	14	2	7	3	1
1742	S. Julian	28	11	4	3	—	3	7	5	3	6	3	1
485	S. Lawrence	5	1	—	—	—	2	2	—	1	1	-	—
570	S. Margaret (with Jenny Lind Infirmary) ...	26	6	8	6	—	4	2	4	5	5	2	4
692	S. Martin-at-Palace ...	8	1	2	—	—	2	3	—	4	2	1	—
2426	St. Martin-at-Oak ...	49	22	6	2	1	7	11	8	8	4	3	5
1131	St. Mary-at-Coslany ...	18	8	1	—	—	6	3	3	1	2	1	3
723	S. Michael-at-Coslany ...	14	3	3	—	1	4	3	2	3	1	—	—

DEATHS IN SEPARATE PARISHES.- *Continued.*

Enumerated Population at 1891 Census.	PARISH.	At all Ages.	Under 1 year.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards.	Zymotic diseases.	Tuberculous diseases.	Respiratory diseases.	Heart diseases.	Inquests.
158	S. Michael-at-Plea ...	2	1	—	—	—	—	1	—	—	—	—	—
1595	S. Michael-at-Thorn ...	32	11	2	2	—	7	10	7	4	4	2	1
4552	S. Paul	105	50	15	2	7	23	8	21	17	14	7	4
303	S. Peter-at-Hungate ...	8	2	3	—	—	1	2	4	1	2	—	—
1904	S. Peter Mancroft ...	28	8	1	—	2	10	7	2	4	4	2	2
2767	S. Peter-per-Mountergate ...	46	15	3	—	—	10	18	9	9	—	5	3
695	S. Peter Southgate ...	8	1	1	—	2	3	1	1	2	—	—	2
1364	S. Saviour	26	8	4	—	1	4	9	5	3	3	—	2
290	S. Simon & S. Jude ...	1	—	—	—	1	—	—	—	1	—	—	—
3584	S. Stephen (with N. & N. Hospital)	136	12	21	14	14	46	28	15	15	16	7	29
692	S. Swithin	12	2	—	1	—	5	4	2	1	6	—	—
1848	Eaton...	18	6	2	—	—	4	6	4	0	2	1	1
244	Earlham	5	1	—	—	—	1	3	—	-	—	2	1
30,084	Heigham* (with Union) ...	658	182	64	22	21	140	229	108	81	82	67	29
722	Hellesdon (part of) ...	7	1	—	—	—	1	5	—	—	2	1	—
3365	Pockthorpe (with Cavalry Barracks)	62	37	11	2	2	5	5	18	8	8	—	3
5265	Thorpe Hamlet (with Brit. Barracks and Prison) ...	75	16	8	4	3	26	18	12	7	14	3	8
290	Trowse, Carrow and Bracondale	3	—	—	—	—	1	2	—	1	1	—	—
490	Cathedral Precints (S. Mary-in-Marsh)	6	—	1	—	—	1	4	2	—	2	—	—
17	On Boats and Barges (Wensum)	3	—	—	—	—	1	1	—	—	—	—	3
8553	Lakenham	158	51	14	6	10	37	40	24	17	33	9	6

*Includes St. Bartholomew. St. Philip, Trinity, and St. Thomas.

The populations of the various parishes are calculated from the actual populations recorded at the 1891 census. It has been assumed that the rate of increase in the population of each parish has continued at the rate which prevailed in the preceding decade. It is more than probable, however, that when the census is taken again (and this counting of people ought to be held at least once in every five years), the populations of the central parishes will be found to have increased less in proportion (if they have not actually declined) than those of the parishes more remote from the centre of the City. The rates for 1895 therefore are but approximative ones, albeit, the best we can arrive at under existing circumstances.

Comparing these "Parish" death-rates, with one another and with the corresponding mortality rates for the City as a whole we see that St. Edmund's easily heads the list with a *gross death-rate from all causes* of 33.0 per 1000 of its population at all ages. St. James come second with a death-rate of 29.0 per 1000, and St Peter-at-Hungate follows with one of 25.0 per 1000. At the other end of the scale are St. Simon and St. Jude with a gross death-rate of 4.7 and St. George Tombland with one of only 4.3 per 1000, the corresponding death-rate for the whole City being 19·0 per 1000.

Comparing the "special" death-rates in the like manner we find the death-rate in children *under one year of age* reached the portentous figure of 16.0 per 1000 of the population at all ages in St. Edmund's, 15.1 per 1000 in St. James', and 10.3 per 1000 in Pockthorpe and St. Paul's respectively; while St. George Tombland, St. John de Maddermarket, St. Simon and St. Jude, Trowse, Carrow and Bracondale, and St. Mary-in the-Marsh all come out with ciphers. "A vasty difference here!" The death-rate in children under one year of age for the City as a whole was 6.0 per 1000 of the population at all ages.

Between the *ages of one and five years* 9.3 per 1000 of the total population at all ages died in St. Peter-at-Hungate, 5.0 per 1000 in St. Gregory, and 4.4 per 1000 in St. James'; while in St. George Tombland, St. John de Maddermarket, St. Lawrence, St. Michael-at-Plea, St. Simon and St. Jude, St. Swithin, Earlham, Trowse, Carrow and Bracondale no deaths occurred. The average rate for the City, as a whole, being 2.1 per 1000 of its total population.

At and above 65 *years of age* 27.2 per 1000 of its total population died in St. Helen's (including inmates of the Great Hospital), 11.4 per 1000 in Earlham, 8.2 in St. George Colegate, and 8.0 in St Edmund's; while no deaths occurred in St. Simon and St. Jude and St. John de Maddermarket. The death-rate at these ages for the City, as a whole, was 5.0 per 1000

From *Zymotic diseases* there died in St Peter-at-Hungate no less than 12.5 per 1000 of its population at all ages, in St. James' 8.8 per 1000, in St. John de Sepulchre 7.6, in Pockthorpe 5.0 per 1000; whereas in St. Ethelred, St. Helen's, St. Lawrence, St. Martin-at-Palace, St. Michael-at-Plea, St. Simon and St. Jude, Earlham, Trowse, Carrow and Bracondale no deaths occurred. The death-rate from Zymotic diseases for the City, as a whole, was 2.7 per 1000.

Tuberculous diseases (forms of the disease commonly called "Consumption") swept off 7.5 per 1000 of its total population in St. Ethelred, 5.5 per 1000 in St. Stephen's, 5.2 per 1000 in St. Martin's-at-Palace and St. John de Maddermarket, and 5.0 per 1000 in St. Gregory;

whereas All Saints, St. George Tombland, St. Michael-at-Plea, Eaton, Earlham, and St. Mary-in-Marsh lost no one from these diseases. The death-rate from tuberculous diseases averaged for the City, as a whole, 2.4 per 1000 of the total population.

I have, in the foregoing paragraphs, selected only a few "Parish" death-rates; the individual reader will be able to institute much more elaborate comparisons. If the said reader wish to guage the relative healthiness of any special parish, the important death-rates to be considered, are (*a*) *the death-rate under one year of age*, (*b*) *the death-rate at and over 65 years of age*, (*c*) *the zymotic death-rate* and (*d*) *that from tuberculous diseases.* He will do well to bear in mind the facts that a very low death-rate at and over 65 years of age does not necessarily point to a high standard of healthiness; on the contrary it may mean that practically everybody is killed off in that particular parish before the age of 65 is reached!

The certified causes of death in children dying under one year of age were:—

Abscess	1	Heart Disease	4
Asthenia	4	Improper dieting	1
Accidental Suffocation	1	Immaturity	6
Atalectasis	2	Inanition	11
Atrophy	4	Imperfect Assimilation of Food ...	2
Accidental Choking	1	Jaundice	4
„ Burn	1	Laryngitis	4
Bronchitis	44	Marasmus	70
Broncho-Pneumonia	20	Malnutrition	9
Compression of Umbilical Cord ...	1	Measles	9
Convulsions	41	Meningitis	2
Cleft Palate	1	Natural Causes	27
Congenital Syphilis	6	Neurasthenia...	2
Cholera Infantum	2	Premature Birth	88
Cyanosis	3	Rickets	3
Cerebral Hœmorrhage	1	Sarcoma of Kidney	1
Croup	1	Septicœmia	1
Debility from Birth	50	Spina Bifida	1
Diphtheria	1	Syncope	1
Diarrhœa	152	Tuberculous Diseases	23
Dentition	11	Thrush	4
Ear Disease	1	Whooping Cough	23
Gastritis	3		

N.B.—At the 1891 census St. Edmund's contained 24 uninhabited houses, and 129 inhabited houses, of these latter 29 were tenements of less than five rooms.

Twenty-one deaths were uncertified, *i.e.*, certificate of death was not signed by a medical practitioner.

" Premature Birth " was given as the cause of death in the great majority of these cases. I need hardly point out that it is discreditable to the State to lose a single subject without being furnished with a properly attested medical certificate of the cause of death. The law now allows a Registrar, almost always a layman, to accept a certificate from a unqualified person, provided that he, the Registrar, is persuaded that no deception is being practised. The proper course is, without doubt, to hold an enquiry in every such case, and where needful a post-mortem examination. But these things will only be done when the Registration of the causes of Death is made a department of the Medical Officer of Health's Office. It is gratifying, however, to note that whereas in 1894 the uncertified cases amounted to 4·3 per cent. of the total number, in 1895 the proportion fell to 3·2 per cent.

It does not require any technical knowledge on the part of the reader to see that some of the certified causes of death quoted on the preceding page remain as vague as in 1894. " Marasmus," for instance, is not, properly speaking, a disease, it is a symptom of disease and is a term used to signify wasting, and yet is made to account for 70 of the deaths. " Neurasthenia," whatever in infants that may mean—the pet affliction of "Society" ladies —seems to have bored out of existence only two Norwich children in 1895, and " Want of Vitality," happily disappears. On the whole the information afforded is much more precise and therefore valuable, than was the case in 1894

It is true that so long as the State demands from the doctors, for the public use and good, certificates of the causes of death and awards no payment for them, it cannot expect the said doctors, men, after all, merely human, to give careful attention to the thankless task. Some few doctors, of their own accord, take great pains to furnish clear, reliable, and therefore to the demographical statistician, most valuable information respecting the true causes of death; it is the business of the State, by awarding a fee for the service rendered, to entitle the M. O. H. to claim in all cases the fullest possible information.

An important point to be noticed is, that while the average infant mortality rate for the 33 great towns (as compared with 1894) increased 18·0 per 1000 births, that of Norwich increased 26.0 per 1000 births, *not a gratifying result*; and one we must hope that we shall not find yet further emphasised in the future. 9 deaths are certified as being due to " Malnutrition," but one death only is attributed to " improper dieting "; though there is little doubt that a large number of those classified under the ambiguous term " Marasmus " are due to this cause : a cause, which orignates in and flourishes by reason of the ignorance of the hygiene of infant life so lamentably prevalent among otherwise affectionate mothers. Unrecognised tuberculous disease, in my private judgment, accounts for others of these deaths so desipiently ascribed to " Marasmus," as it probably does for some of the deaths attributed to " Convulsions," under which heading it will be seen no less than 41 deaths were registered: Bronchitis swept off 44, Diarrhœa 152, and Whooping Cough 23. The other features do not call for special comment, save that Atrophy (4) and Asthenia (4) probably signify at bottom improper feeding, and that 27 deaths attributed to " Natural Causes " were so attributed after inquests.

OBSERVATIONS ON SOME SANITARY CHARACTERISTICS OF THE YEAR.

Compared with the Report I had the honour of submitting to your Authority for the year 1894, I have to candidly state that this Report only affords us a mitigated satisfaction. The *Gross Death-rate* is a higher one (largely due to infantile diarrhœa): the death rate from *Zymotic diseases* is nearly double that for 1894; and the *Infant Mortality* rate is a less satisfactory one. There have, however, been decreases in the death rates from the Tuberculous diseases (2·4 as against 2·5 per 1000); from Respiratory diseases [excluding Tuberculosis of the Lungs (Phthisis)] (2·5 in place of 3·0 per 1000); and from Heart diseases 1·5 instead of 1·6 per 1000. So we are justified in drawing this inference: that, apart from the zymotic group, there has been less fatal disease of an ordinary character.

Although 1895 is unfavourably distinguished by a heightened death rate from Zymotic diseases, it is chiefly among the Zymotic ailments which specially affect children, that the increased mortality has taken place (*e.g.*, Diarrhœa and Whooping Cough). There were, in addition, slight increases in the mortality from Diphtheria, Enteric Fever, and Measles, with, however, marked reductions in the numbers of deaths attributed to Scarlet Fever, Puerperal Fever, Erysipelas, and Influenza.

The total number of notifications of infectious diseases sent in was less by 230 than the total number received in 1894. The actual figures being 601 and 831 respectively. These notifications were distributed as follows:—Scarlet Fever, 285 (in 1894 the number was 547); Diphtheria, 77 (120 in 1894); Enteric Fever, 226 (151 in 1894); Puerperal Fever, 13 (in 1894 same number). You will note that the number of cases of Scarlet Fever was less by 262 than in the preceding year; that there were 43 fewer cases of Diphtheria, that the cases of Puerperal Fever remained the same, and that there were no less than 106 more cases of Enteric Fever. These diseases and the causes of their increased or diminished prevalence are dealt with at considerable length in subsequent sections.

The character of the weather in the late summer and in the autumn, markedly favoured the development of the filth diseases, Diarrhœa, and Typhoid; and the members of the Sanitary Committee may remember that early in July I predicted an even heavier incidence of Typhoid than actually befell us. The extensive drainage operations now being carried out under the able direction of my colleague, the City Engineer, in connection with the new sewerage scheme, have exerted an unfavourable influence upon the general healthiness; albeit, the ultimate effect of the new system, when completed, may be legitimately expected to prove one of real and lasting benefit to the community. My observations and reading teach me that you cannot disturb large portions of the soil of a city—particularly the soil of an old city, soaked with the filth and permeated by the *debris* of ages, without increasing, for the time being, the amount of those diseases which specially affect the alimentary sections of the human system, such as Diarrhœa and Typhoid, etc. I have, unfortunately, reason to anticipate a considerable prevalence of enteric disease during the present year.

The new system of scavenging inaugurated by the Sanitary Committee in October, 1894, has worked well, and with increasing satisfaction to the citizens. The "bins" are more regularly cleared of their dangerous contents, and the "house refuse" is more systematically collected. For these good results, Mr. Brooks, your chief inspector, should be awarded the credit, he having, under the direction of the Sanitary Committee, organised in the first instance, as he continues to supervise this department of our sanitary administration.

We were fortunate in escaping any outbreak of Small-pox. Should that scourge gain a footing among us, I cannot prophesy smooth things for the city. While the Sanitary Committee has by no means overlooked the possibility of having to deal with an outbreak of this loathsome disease, the citizens continue to persistently neglect to secure for themselves the protection afforded by efficient vaccination.

The Council not having delegated me to attend in its behalf any of the congresses held during the year, I am unable to append a report upon the proceedings and discussions of these important and instructive gatherings of sanitary experts.

ON THE PREVALENCE OF THE NOTIFIED INFECTIOUS DISEASES.

Scarlet Fever.—285 notifications of Scarlet Fever were sent to me during the year. In 1894 there were 547 notifications, and in 1893 the number was 685. The persistent and steadily progressive diminution in the number of cases reported is a gratifying feature of our annual sanitary budget. We are greatly indebted to the influence of the Fever Hospital for these results; results which will, I trust, lead the citizens to provide additional accommodation at the Hospital so that we may wage an equally successful campaign against other infectious diseases. Scarlet Fever, as a reference to Chart I will show, was never wholly absent from the City, but on the other hand it was never epidemic. In only four weeks did the number of notifications run into double figures—in the week ending July 27th—when there were 12 cases reported, in the weeks ending January 19th, July 6th, and September 7th, when 10 cases were notified in each of these periods.

Out of the total number of cases notified, 215 or 75 per cent. were treated in the Isolation Hospital. Among these 215 patients there occurred 4 deaths, representing a case mortality less than 2 per cent. Among the 70 cases treated at home there were 6 deaths representing a case mortality of 8·5 per cent. The proportion of cases treated in the Isolation Hospital steadily increases; in 1894 it amounted to 60 per cent. of the total number notified—in 1895 the proportion was no less than 75 per cent.—a striking instance of the rapid growth in public favour of the Fever Hospital.

As in previous reports, for purposes of convenience, I shall group under the following headings the various influences which favour the propagation of Scarlet Fever among us.

(a) Insanitary surroundings.
(b) Ignorance and carelessness on the part of the people.
(c) Past epidemics
(d) Schools.
(e) Importations of the disease from other districts.

(a) Insanitary surroundings: I am, by my knowledge of the home surroundings of victims of Scarlet Fever, more and more confirmed in my belief that a very powerful predisposing cause of this and other filth diseases is to be found in the pernicious and degrading practice of preserving decomposing excrement in the neighbourhood of dwellings, as is so commonly done in Norwich. The effluvia liberated in the processes of the fermentative decomposition which is set up in the "bins" and "pans" used tend to produce a congested and more or less inflamed condition of the upper part of the throat. This well-known "bin" or "drain-throat," provides a highly favourable opportunity for Scarlet Fever to develop. Defective drains, untrapped street gullies, and at times sewer ventilators also contribute towards outbreaks of the filth diseases, particularly in children, who often play, etc., near to them, and must necessarily, even in merely walking about, have their respiratory and alimentary passages closer to these sources of danger than are those of adults, and so inhale the tainted air in a more concentrated condition.

(b) (c) and (d) I must refer you again to the observations I made under these headings on pages 18 and 19 of the 1893 Reports: observations which still remain pertinent and apposite to the state of things we had to deal with. It is with pleasure, however, that I find myself able to record a steady and continuous improvement under each of these headings, especially the last *(d)*. I did not find it necessary to advise the closure of a single School on account of Scarlet Fever last year. This satisfactory state of things is chiefly due to the influence exerted by the more complete application of the principle of isolation to the cases. Indeed, the Fever Hospital should be regarded as a premium paid, so far as Scarlet Fever is concerned, to keep the Schools open.

(e) Importation of the disease from other districts.—Scarlet Fever has been for some years, and still is, so generally distributed throughout the

country, that we must expect importations of it into the City from time to time. On the other hand there is no reason to doubt that we have exported a little of it ourselves, and broadly speaking, a fairly even balance between importation and exportation has been struck. The absolute amount was, no doubt, much less last year than in the preceding one, but the relative proportion doubtless remains the same, and this I estimate, so far as Norwich is concerned, to represent a moderate excess on the side of the importing over the exporting agents. I knew of nine instances of importation into the City of Scarlet Fever from other districts last year, two from London, one from Suffolk, and the remainder from the County of Norfolk. I had brought to my notice two instances of exportation of the disease from Norwich. There were possibly more.

Chart I. exhibits, in graphic form, the periods of greatest and least prevalence of Scarlet Fever during the year.

Diphtheria.—There was a very gratifying decline in the amount of Diphtheria notified during the year. In 1893 the number of cases notified was 134, in 1894 the number fell to 120, and in 1895, the year under consideration, the number fell yet more—fell indeed to 77. I hope this diminution will be progressive as years pass by; though there are indications of an increase in the total amount of Diphtheria (judging from the returns for the first quarter) during the present year. There were 19 deaths recorded in 1895 from this disease—10 in persons under and 9 in persons over 5 years of age. The mortality rate was higher than in 1894. One person dying out of every 4 notified—in 1894 the proportion was 1 in 6. So that, although the total amount of Diphtheria was considerably less the relative mortality was markedly increased. Assuming that the disease was, in all the cases notified, true Diphtheria, the death rate from it represents attacks of quite, or rather above, average severity. Diphtheria as is well known running through many gradations, some cases being so mild as to escape notice, others so virulent as to cause death in a few hours. The accuracy of a diagnosis of Diphtheria is most effectually established by a bacteriological examination of some of the membrane formed on, or of the exudation or discharges from the affected tissues for the presence of the specific micro-organism—the *Diphtheria bacillus*—associated with the true disease. If the specific bacillus be found, then there can be practically no doubt at all that we have to deal with the true disease. During the year the treatment of cases of Diphtheria with the "Anti-toxin" has been practised with very considerable success in Norwich—particularly when that remedy has been applied sufficiently early. In my own hands, at the Fever Hospital, and particularly in cases of Scarlatinal-Diphtheria, "Anti-toxin" has proved an efficacious remedy. (These cases will be referred to in a more detailed manner in the section dealing with the Fever Hospital.)

Chart I. exhibits the variations in the prevalence of Diphtheria during the year. It will be observed that in one week only did the number of cases notified attain to double figures, viz., the first week in November, when 10 cases were reported. For several weeks in dry weather no notifications of the disease were received, *e.g.* from the second week in May until the fourth week in June.

These facts lead me to mention the association of notified Diphtheria with wet weather—an association which has been a constant one for the last three years.

Over and over again I have noticed that prolonged dryness of the soil and atmosphere is accompanied by a steady diminution in the number of cases of Diphtheria notified—if the fine weather continue, to a complete absence of such notifications ; but that so sure as we get a few days rain, more particularly weather when the atmosphere remains heavy and humid with intermittent rain, so surely do I expect, and shortly receive some notifications of Diphtheria. I think this sequence of events too often observed to be mere coincidence is explained by assuming, as I do, that the Diphtheria poison we have always with us ; but that in the dry weather it does not find a favouring shelter in the tissues of the throat of Norwich people, unless these throat tissues have been worried and irritated by "bin" and drain effluvia of concentrated virulence ; but that with the onset of wet weather, a low condition of inflammation, rather a congestion of the throat tissues is set up, and then the conditions are much more favourable to the development of Diphtheria. The one predisposing cause which is least dependent on dampness seems to be throat irritation due to foul "bins," etc. In no less than thirteen instances have sporadic cases of Diphtheria, all severe and in five cases fatal, occurred immediately after the "bin" had been emptied, and when the horrible stench created by the disturbance of the putrified excrement in this emptying process had permeated the dwelling with overpowering and nauseating intensity. No other special cause could be discovered, and in my own mind there is practically no doubt at all that the putrescent excrement exerted this baneful and as it proved lethal influence over the susceptible inmates of the dwelling. Untrapped street gullies and sewer gratings in my own belief, have exerted a malificent influence too ; they hvae been much and bitterly complained of. In one house for the second year in succession Diphtheria broke out with no ostensible connection with any pre-existing cases, indeed there were none in the neighbourhood ; but having opposite to the door of the dwelling a sewer grating, which, as I and the doctor attending the patient can certify, stank abominably, not continuously, but what is so much more dangerous, intermittently. We concurred in finding in the nauseating effluvium which was from time to time exhaled from that sewer grating the most probable, indeed the practically certain cause of the outbreak. The mothers of children repeatedly tells us, when enquiries are made into sporadic and otherwise quite unaccountable outbreaks of Diphtheria—"She complained on such and such a day of a nasty smell in the street—in fact when she got home the child could scarcely eat her dinner," etc.—Now as I have been myself brought to the verge of vomiting by a stench arising from a street grating, I can perfectly understand the powerful effect ill-conditioned smells arising from sewer gratings and untrapped street gullies have on these younger members of our communal family—particularly when a little fatigued with a morning's work at school, and when they are, in addition, hungry.

One notable outbreak occurred in a good-class house in the city. A nurse brought back from some outside visit an unsuspected bad throat, and soon afterwards no less than six members of that household were notified one after the other as having Diphtheria of varying intensity. A sanitary defect was found which would admit of air from a drainage pipe passing under the floor of a room largely used by the affected persons. This probably produced a condition favourable to the development of the Diphtheria Bacillus if once introduced—and that introduction was presumably effected by the nurse, whose throat was first attacked—otherwise, unless some general condition affecting the members of the family—such as a constitutional predisposition, and of this there was no satisfactory evidence, or such as breathing a drain contaminated air—it is not easy to explain the facility and rapidity with which the disease established itself. The outbreak I am happy to say was limited to that one particular household, and spread to no other in the neighbourhood.

In all cases notified a careful report of the sanitary condition and surrounding of the affected dwelling is drawn up, and preserved in my office. Collating the evidence so acquired last year, I find that 39 per cent. of the cases occurred in males, at 61 per cent. in females (who generally spend most time in and about the family dwelling); that dampness of some portion of the walls of the dwellings existed in 25 per cent. of the cases; that 12 per cent. used pump, and 88 per cent. the Company's water; all used milk (there was no evidence implicating that); that 6 per cent. had their food store in the living room, but ventilated, 71·5 per cent. in the living room unventilated, 3 per cent. in properly ventilated separate pantries, 19·5 per cent. in other places, but not properly ventilated; in 37 per cent. of the houses there were defects connected with the drainage, 6 per cent. had the sink pipes running directly into the sewers, 45 per cent. had no sinks (which means constant slopping near to the dwelling), and in only 12 per cent was the drainage, etc., all right; 25 per cent. had paved yards, 43 per cent. partly paved yards, and 32 per cent. unpaved yards (with all their superabundant opportunities of getting soddened with impurities); 62 per cent. of the infected dwellings had the excrement of the occupants preserved in more or less close contiguity in "bins," 22 per cent. in pail closets, 16 per cent. used water-closets; 7 per cent. of the dwellings only had one bedroom, 40 per cent. had two, 39 per cent. three, and 14 per cent. four or more. The relative crowding amount to 4½ persons, at all ages, per bedroom where there was only one sleeping apartment, 2½ persons where there were two, 1¾ where there were three, and 1¼ in those with four and above that number. The reader is left to draw his own inferences from this summary of the Sanitary characteristics of the 66 dwellings invaded by Diphtheria in Norwich during the year 1895.

Chart I. shews in graphic form the periods of greatest and least prevalence of Diphtheria.

ENTERIC FEVER AT NORWICH IN 1895.

226 * cases of Enteric Fever were notified to me during the year; the number of such cases in 1894 having been 150; and in 1893, 314. The average number per annum has been for the last ten years 1885 to 1894 (inclusive) 220; so that the returns for 1895 are a little above the decennial average. Now, as the amount of Enteric Fever occurring in a district is the commonly accepted guide to its general sanitary condition, these figures represent no improvement as measured by notifications of Enteric Fever, upon the preceding decade at first sight. In

* Six of the Patients contracted the Disease elsewhere.

fact they make out our sanitary state as being a little worse than usual. But it must be remembered that we are dealing with an increasing population and that therefore the proportion of cases to people, despite the heightened total, is not the same. One of the city practitioners, a native of Norwich, told me the other day that, ever since he could remember, Enteric Fever had never been absent from the city, and that in estimating the causes and the conditions favouring its continuance I did not take "sufficiently long views." ! Enteric Fever having for so many years been relatively prevalent in the City, I have been looking through my predecessor's reports to see if any special reasons for these chronic sub-acute epidemics of the disease in the city had been furnished by him: I cannot say this search has proved fruitful of results. The most notable reference being at the commencement of the Annual Report for 1885, in which year a marked exacerbation of the customary outbreak occurred, nearly 600 cases of Typhoid being notified; indeed the Local Government Board sent down one of their Medical Inspectors, Dr. Airey who wrote a lengthy report upon this special outbreak (a copy of which report I have unfortunately been unable to obtain).

It will be interesting and I trust useful for us to refer from time to time to my predecessor's 1885 report in attempting to account for the occurrence of 226 notified cases of Enteric Fever in the year under our special consideration, 1895.

The first point to be noticed is that in the middle of 1885 the population was estimated at 91,215 whereas in the corresponding period in 1895 the population was estimated at 107,127 ; an increase in the number of people within the bound- of the City of no less than 15,912. This population factor must be kept in rememberance whenever we institute any comparisons.

The population in the middle of 1894 was estimated to be 105,645. If we take the average population of the ten years 1885 to 1894 (inclusive) to have been 98,430, the mean of its extremes, we get one case of Enteric Fever in every 448 people per annum during the ten years In 1895 the corresponding proportion was one case in every 474 people. So that despite the heightened total number (226 as against 220) the relative proportion of cases to population is slightly lower than the average of the preceding decade. Not a very triumphant result of a campaign waged for many years, and still proceeding !

One thing is, however, very clear, viz:–that we are dealing with no new feature in our annual sanitary budget when we come to Enteric Fever. We have only too certain evidence of continued existence for the past ten years, and reliable evidence that it has never been absent from the City within living memory. What then are the chief causes of this state of things ? Why should we still find ourselves furnishing forth one case of Enteric Fever in every 474 of our people ? Even if I had complete and accurate reports for, say the last quarter of a century of the prevalence year by year of Enteric Fever, it would be impossible for me to furnish a full account. I shall have therefore, to restrict myself to representing some of the most striking facts, and before going into some details with reference it the 226 cases which were notified to me last year, I will tabulate the numbers of notifications received during the years 1880 to 1895, the period during which notification has been required in this City, with the actual number of deaths from the disease in each year, and then the percentage of fatal attacks to the total number. There were

180	notifications	of Enteric	F. in	1880	with	37	deaths	representing a	mortality rate of	20·5 °/o
50	„	„	„	1881	„	15	„	„	„	30 0 „
47	„	„	„	1882	„	8	„	„	„	17·4 „
34	„	„	„	1883	„	11	„	„	„	32·3 „
121	„	„	„	1884	„	30	„	„	„	24·8 „
584	„	„	„	1885	„	92	„	„	„	15·6 „
262	„	„	„	1886	„	39	„	„	„	14·5 „
136	„	„	„	1887	„	20	„	„	„	14·7 „
171	„	„	„	1888	„	19	„	„	„	11·1 „
166	„	„	„	1889	„	22	„	„	„	13 2 „
176	„	„	„	1890	„	31	„	„	„	17·6 „
163	„	„	„	1891	„	21	„	„	„	12·8 „
106	„	„	„	1892	„	19	„	„	„	17 9 „
314	„	„	„	1893	„	36	„	„	„	11·4 „
150	„	„	„	1894	„	22	„	„	„	14 6 „
226	„	„	„	1895	„	24	„	„	„	10·6 „

A glance at the foregoing statistics will show that on the whole the death rate from Enteric Fever has been lessening. Dividing up the 15 years, 1880—1894 inclusive into three periods of 5 years each we find that in first lustrum (1880—1884 inclusive) an average mortality rate of 25 per cent of the total number of the cases notified or exactly one death in every 4 cases. In the next lustrum (1885—1889 inclusive) the average mortality rate is 13·8 per cent. or one death in every 7¼ cases. In the third lustrum (1890—1894 incluvsive) the average mortality rate is 14·8 per cent or one death in every 7 cases. Last year, 1895, the mortality rate was 10·6 per cent. the lowest for the fifteen years, or one death in every 9½ cases. The proportion of deaths from Enteric Fever then, to the total number of cases notified in 1895, is less than half the rate which prevailed in the five years (1880—1884) about three quarters of the rate which prevailed in the five years (1885—1889) and five sevenths of the rate which prevailed in the five years (1890—1894). Several factors must be taken note of, in arriving at any conclusions from the foregoing figures. It does not at all follow from the facts, as recorded, that the Enteric Fever of the lustrum (1880—1884) was necessarily of a severer type than that of last year for instance. Very probably a considerable number of the milder cases of the disease were overlooked, or at any rate not notified during the period in question. Improved methods of diagnosis have, in my judgement, led to a very large relative increase in the numbers notified. Considerable credit must be attributed to the great advances which have been made in the methods of treating the disease in lessening the mortality, but on the whole, and giving due weight to these considerations, I am disposed from my personal observation of the cases to think that the disease is in Norwich gradually lessening in severity of type. Long continuance of any epidemic disease commonly has the effect of lightening its severity. The disease itself appearing to undergo a slow process of attenuation in the virulence of its attacks.

Before treating of the home surroundings of the cases which were notified in 1895 it will be well to refer to some general features of the outbreak, and compare these with those recorded of the epidemic in 1885.

In 1885 the then M.O.H. tells us that "the disease was most prevalent in the early months of the year." Rather an unusual experience. Enteric Fever being commonly most prevalent as it was in 1895, in the autumn.

The 1885 Report goes on " no part of the City escaped, and although it (the disease) may have been a little more prevalent here and there, yet in no one locality did it specially manifest itself, or prove specially fatal."

In 1895 the disease was most prevalent in relatively poor localities in the streets and yards for instance on the slopes between Ber Street and King Street, and along Philadelphia Lane ; but it was also, as in 1885, very generally distributed.

" Children (to quote again from the 1885 Report) were more generally attacked, though adults by no means escaped, and the upper classes were, singularly, as a rule, exempt from the disease."

In 1895 no less than 48 per cent. of the cases occurred in children under 15 years of age, and 66·25 per cent. of the total number of cases in persons under 20 years of age : the remainder, however, were among persons over 20 years of age, and, therefore, " adults by no means escaped." The upper classes as in 1885 " were singularly, as a rule, exempt from the disease."

" Different explanations " says my predecessor " have at times been offered as to the causes of it, and in turn the sewers, the water supply, the milk supply, the bins, and even the gas works have been credited with either causing or being connected with the outbreak."

Different explanations, etc., have been offered in 1895, and I am disposed myself to think that the bins, the water supply, sewers, the habits and habitations of the citizens, and the soil of the City have all been connected with the outbreak ; I note that my predecessor was of opinion that the 1885 epidemic " was probably due to some subtle atmospheric influences rather than anything else." In 1895, too, I am of opinion that meteorological conditions favoured the outbreak, notably the early period at which a relatively high earth temperature was reached, and the long period for which it was maintained. (Our high mortality from Diarrhœa points to the same influence—Diarrhœa being a sort of jackal to the Typhoid lion).

In 1885 a Local Government Board Inspector—Dr. Airey—(as quoted by Mr. Crosse) regarded " the foul condition of the privies as one main factor in the epidemic, and recommended that the bins should be reduced in size." Dr. Airey, it seems, also recommended " that steps should be taken to close dangerous wells that were known to exist." But Mr. Crosse adds, " nothing has been done in either direction (May, 1886) and the complaint has comparatively speaking disappeared."

In 1895 I regarded the existing and the past condition of the privies as " one main factor," too, though I am bound to add that a good deal has been and is being done to reduce the size of the bins, and so far as I can estimate the evidence their general condition is now much less " foul " than it was in 1885. All wells, too, known to be dangerous have been closed, and some only suspected of being dangerous.

Dr. Airey in 1885 recommended "better ventilation of the sewers and better means of isolating cases as remedial measures." After many experiments the Sewerage Committee is erecting some quite conspicuous shafts in various portions of the City to promote "better ventilation of the sewers." I should be glad myself to see street gratings disappear. I am satisfied that in a city having such changing levels as Norwich, the effluvia extruded from time to time through these said gratings have been in the past and are still (intermittently) dangerous to health. Personal experiences of the effects of the said effluvia have left me in no sort of doubt about the matter. Untrapped gullies, too, should be reformed off the face of the streets. Suitable hospital accommodation for isolating Typhoid is what I have been urging the City to provide ever since I have been in it.

Turning now to a consideration of some characteristics of the 226 cases notified in 1895 we find

(a) sex. That 44·2 per cent. of the cases were males and 55·8 per cent. females a point to be borne in mind in estimating the influence exerted by the home; the females commonly spending more of their time in and about it

(*b*) age.

7·5	per cent of the total number	of patients	were under 5	years of age.
22·5	,,	,,	,, between 5 and 10	,,
18·5	,,	,,	,, ,, 10 ,, 15	,,
17·75	,,	,,	,, ,, 15 ,, 20	,,
10·0	,,	,,	,, ,, 20 ,, 25	,,
12·75	,,	,,	,, ,, 25 ,, 30	,,
5·75	,,	,,	,, ,, 35 ,, 45	,,
5·25	,,	,,	,, over 45	years of age.

The rise which occurs between the ages of 25 and 35 is chiefly due to instances where the mothers and sometimes the fathers of younger patients subsequently contracted the disease, e. g. out of 33 instances of secondary infection 5 occurred in persons between these ages, 4 mothers and 1 father. By secondary cases I mean cases occurring in the same house subsequent to the notification of the first.

(*c*) Crowding.

				average number of occupants.
5	per cent of the affected dwellings	had only	1 bed-room,	3¾ persons
34	,, ,,	had	2 ,,	2¾ ,,
48	,, ,,	,,	3 ,,	2 ,,
13	,, ,,	,,	4 or more ,,	1 ,,

For purposes of estimating the influence of person crowding I have only concerned myself with the number of bedrooms, the apartments in which crowding is really important. The census returns are only helpful here in respect of tenements consisting of one room which must of necessity be used as a bedroom as well as sitting room: the dwellings with "two rooms" (census classification) do not have these differentiated; one of the two rooms is presumably a day living room, but whether used for sleeping in as well, is not recorded.

At the census there were 2·1 per cent of the Norwich dwellings which consisted of one room only, 8 per cent. which consisted of two rooms.

Of the cases of Enteric Fever no less than 10 per cent. occurred among the occupants of one-roomed dwellings, a very striking illustration of the predisposing influence exerted by relative over-crowding. That is to say, that although only 2 per cent of the total number of dwellings in the city are one-roomed tenements 10 per cent. of the total number of cases of Enteric Fever occurred in them. If crowding have no practical importance in determining the incidence of Enteric Fever only 2 per cent of the cases ought, other things being equal, to have occurred in these one-roomed dwellings and not, as actually did happen, five times that proportion. 32 per cent of the total number of cases occurred in two-roomed dwellings. The proportion of such houses to the total number in the city was (at the census) 8 per cent. In these houses not 8 per cent, but four times that proportion of the cases occurred (many, no doubt, of these two-roomed houses had practically but one bedroom). I am of course well aware of the fact that sleeping in overcrowded rooms is debilitating to the general health and *pari passu* predisposes to any disease, and also that dwellers in one or two roomed tenements are frequently uncleanly in their habits.

(*d*) Water supply.
80·5 per cent of the affected dwellings were supplied with the Co's. water.
19·0 ,, ,, ,, by wells.
0·5 ,, ,, ,, by wells and the Co.

We shall feel, I think, that if we are to attribute the propagation of Typhoid to water supplies, we have practically to impeach the water supplied by the Company (hitherto reckoned as very good water), as well as that supplied by the wells. Whilst 83 per cent. of the houses of the City are supplied by the former, 17 per cent. depend on the latter, and 80·5 per cent. of the houses in which Enteric Fever occurred were supplied by the Company with water, and 19 per cent. with well water, an increase of 2 per cent. in the case of the drinkers of well water over the normal proportions obtaining between these different sources of supply. Even these figures cannot be entirely relied on, for seven persons who suffered from Typhoid Fever (practically three per cent. of the total number) were most positive in their assurances that they never drank water at all, and I entirely accept and believe the statement. For all practical purposes if we attribute Typhoid to the water we must attribute it fairly and impartially to the whole supply, that furnished by the Company as well as the wells. A number of wells have been closed during the year because of the unsatisfactory character of the water as tested by chemical analysis, and the same tests applied to the Company's water have had results which one is justified in speaking of as entirely satisfactory; but there has been no positive proof that either water has given rise to Typhoid. It will be remembered that a sample of the Company's water was sent to Somerset House to be analysed by the official analysts, and was certified by them to be "derived from a comparatively pure source, and to be a perfectly safe water, for dietetic use." I know the greatest possible care is bestowed upon the filtration and storage of their water by the officials of the company, previous to distributing it for general use, and short of the demonstration by bacteriological experts of the specific micro-organisms being distributed in it, which has never been done, I see no sufficient reason for charging it with propagating Typhoid among us. Indeed, had the Company supply been at fault, we ought to have had a far more widely-spread and serious epidemic of Typhoid, seeing that four-fifths of our people drink their water. The water in the wells condemned during the year, was of such quality as to be injurious to health even apart from the possibility that some of it propagated Typhoid. I shall continue to hope that the Sanitary Committee will fit up a laboratory for the use of the Medical Officer of Health with all the appliances required for making bacteriological examinations of water. If certain specific micro-organisms be found in a water, then, no matter how satisfactory chemical analysis may declare it to be, one would have no hesitation in promptly prohibiting its use.

(e) Milk. In 10 per cent of the cases none at all was drank.
In 25 ,, only ,, was it drank in the raw uncooked state.
In 65 ,, only when cooked in puddings, etc., or in hot tea, etc.

Milk did not, I think, propagate Typhoid among us ; at any rate I got no satisfactory evidence of its doing so. I certainly did suspect one supply, but I could never prove that water was added to the milk, and, moreover chemical analysis declared the presumably incriminating water to be of an eminently satisfactory character. Ten per cent of the patients moreover never took milk at all, not even in tea ; 65 per cent. only took it in tea or coffee or after being cooked in puddings, etc., so practically three-fourths of the cases put milk "out of court." Twenty-five per cent. of the patients only had been in the habit of drinking milk in the raw state. On the whole I do not attribute much of our Typhoid to milk, unsatisfactory as our control over its supply unfortunately is.

(f) Shell-fish. 14 per cent of the patients ate shell-fish raw or cooked.
62 ,, ,, never ,, ,,
remainder ,, uncertain.

The figures shew that the consumption of shell fish could not account for more than 14 per cent. of the cases, even supposing (which supposition I do not entertain) that everyone of these eaters of *cooked* and uncooked shell fish owed the attack to this cause. Sixty-two per cent. of the patients did not eat shell fish, the remainder declined to give any information. Probably the proportions of eaters and non-eaters of shell fish among these were much the same as those already obtained—viz., about 1 to 4½.

(*g*) Disposal of Excrement. 64 per cent of the affected dwellings used bins.
24 ,, ,, used pail closets.
12 ,, ,, ,, water closets.

The proportions in which these various types of closets are to be found in the city as a whole is estimated at "bins" 56 per cent. of the houses, pail closets 20 per cent., Water Closets 24 per cent, so that the actual house incidence of Typhoid shows an increase of 8 per cent in the case of "bins," of 4 per cent in the case of pail closets, but a decrease of 12 per cent in the case of houses supplied with water closets, and this despite the fact that one-third of the latter were found to have some defect. In other words the whole reduction from what should have been the average incidence of the disease in dwellings if the closet arrangements exerted no favouring influence upon its development, was effected in houses supplied with water closets.

(I estimate the number of occupied houses in the City to be 24,000 with an average population of 4½ persons per house. At the Census there were 24,000, and of these 1730 were unoccupied. A number of the old houses have been pulled down, and 1360 new houses have been built since.)

(*h*) Drainage. There was some defect in the drainage arrangements at 39 per cent. of the affected houses ; 36 per cent. of the houses possessed no sinks (which means, in practice, pitching slop water about the dwelling), 5 per cent had sinks *in direct communication with the sewers*, and so ventiliating the latter into the sculleries ; 59 per cent sinks properly disconnected.

(*i*) Yards. 2 per cent of the dwellings had no yards.
33 ,, ,, ,, paved yards.
35 ,, ,, ,, unpaved yards.
9 ,, ,, ,, partly paved yards.
21 ,, ,, ,, cobbled yards.

I have repeatedly directed attention to the importance of having the part of the yard which adjoins the dwelling "paved" with some material impervious to fluids; and to the opportunities afforded for getting the subsoil sodden with impurities when you have cobbles, and worse still no attempt at paving of any kind. (The proportions of properly paved house yards to dwellings in the city as a whole, I unfortunately do not, at present, know).

I have compiled the figures relating to the paving of yards, because I think that in all cases, and particularly in old long.inhabited towns it is important to have the neighbourhood of a dwelling fenced about with some impervious paving quite as important as it is to have good thick layer cement or concrete carried right under the dwelling. It is impossible for one to see children squatting and playing about the yards of houses without realising the ease with which their hands, etc., become contaminated with all kinds of dirt when these yards are in an unpaved condition. The soil about the house becomes soddened with impurities, and under the influence of a hot sun not infrequently stinks. The soil of the older parts of the City of Norwich must literally reek with the impurity of ages, one of the most powerful sources of contamination without question, having been the all prevalent habit of preserving excrement in the neighbourhood of dwellings for the most part in cavernous and leaky "bins." Houses erected on such soil without a thick intervening layer of concrete below the flooring must suck up into the lower rooms deleterious exhalations ; for owing to the absence of access for fresh air to the layers of the said soil, the nitrifying processes which free and clear loosely compacted and well-exposed earth, are practically inhibited. Movement of subsoil water too, by forcing out soil air—as doubtless happens after the early autumnal rains is a matter to be considered—for it will be noted that it is in the autumn, particularly in the late autumn, that Typhoid most commonly prevails. How long specific Typhoid bacilli may retain their vitality in soil is not yet a finally determined question, but there is little doubt that large areas of the soil of the City have in the past been well percolated with the soakage of innumerable bins, the contents of a large proportion of which have from time to time unquestionably included the evacuations of Typhoid patients, to say nothing of the leaky sewers, etc., which are now happily being remedied.

(*j*) Food was stored in 3 per cent of the affected dwellings in a cupboard in living room, but a ventilated one ; in 4 per cent in a ventilated receptacle elsewhere. 7 per cent in a unventilated receptacle as respects contact with the external air in some part of the house, other than the living room ; and in no less than 86 per cent of the affected dwellings the food *was stored* in a cupboard or other unventilated receptacle *in the actual living room.*

It is not easy to prove a direct connection between the position and character of the family food store and Typhoidal disease, but it is a fact worthy of note, that in 86 per cent. of the affected dwellings, the food was stored in the living room and such ventilation of the store as occurred was with an atmosphere necessarily laden with all sorts of impurities. Food of whatever kind could not be improved by being kept in these surroundings and such articles as milk, butter, bread, etc., by being so kept might very easily become contaminated with air-born impurities.

(*k*) Nearness to affected dwellings of street gratings and gullies : A malodorous grating or gully having been repeatedly given by the inhabitants of a house as a cause of illness occurring in it, I caused special notice to be taken of the nearness of such gratings or gullies to the dwellings in which Enteric Fever was notified with the following results.

Thirty-five per cent. of the affected dwellings were within 25ft. of a street grating or gully, 14 per cent. between 25 and 40ft., the remainder more than 40ft. distant. (The measurements were, I regret to say only begun in September, but are by no means devoid of interest ; they are now, by my direction, systematically recorded.)

Our investigations into the relative nearness of sewer ventilators and street gullies (which tend to become small cesspools) have been made for too brief a period for me to base any reliable opinion upon them. They, however, promise to be productive of interesting, if not valuable, information in the future.

(*l*) Occupations. 15 per cent of the affected dwellings were occupied by Factory workers, 12 per cent by shoemakers, 10 per cent ordinary labourers, 7·5 per cent by Carpenters, 5 per cent by Railway servants, 4·5 per cent by carters, 4 per cent by builders, 2·5 by publicans, and by bakers, 2 per cent. each by scavenging and sewerage men, laundry workers, fish sellers, gardeners, drapers, and painters. 1·5 per cent each by tailors, butchers, grocers, policemen. Enteric Fever was never once notified in the house of a milk seller, and 2 per cent only of the cases occurred among domestic servants. The remainder were distributed among persons whose occupations cannot be conveniently classified. It does not appear from the foregoing classification, that the followers of any special occupation suffered in a strikingly marked degree. I believe the various per centage rates brought out, correspond very fairly with the proportions in which the various occupations are followed by the classes of people who suffer most from Enteric Fever ; the people whose dwellings do not have more than three bedrooms, counting as a bedroom, the wretched little apartment, almost always without a fireplace, which surmounts the "scullery."

(*m*) Secondary cases. In 21 dwellings more than one member of the family contracted the disease, in fact in these 21 dwellings 55 cases occurred, 21 primarily, the remainder subsequent to the first attacks. One house, indeed, furnished five victims and another eight.

The two dwellings in which no less than thirteen cases occurred (three of them fatal ones) merit some special mention. The house first attacked was a corner dwelling, and contained two bedrooms. It was occupied by a man and his wife and their six children (all of whom contracted the disease, the father last.) The house, a neighbouring one, subsequently invaded, contained three bedrooms, and was also occupied by eight persons.

The first case reported was that of the mother, a woman about 30 years of age, in the corner house; the attack in her case not being satisfactorily accounted for. A few weeks afterwards a second case was notified in the same house, and then a third (on that same day the notification of the first case in the second house was sent in). In the case of the house first invaded by Typhoid, the disease was never absent from the second week in August and in that of the other from the beginning of October until the end of the year; eight cases, and all being reported from the one house, and five from the other. Each of the houses was supplied with the Company's water, and their supplies of milk were furnished by different purveyors: *The two families, however, made use of the same " bin."* A fact which I regard as being important, for I am inclined to believe that the second family contracted the disease through making the use of a bin, the contents of which had doubtless become specifically inflicted with excreta of patients in the corner house. Of course, once the ailment had been introduced into the respective dwellings, it is quite probable that the spreading of the disease among the members of the families may have been due to personal contact, to sleeping in the same room, breathing a Typhoid tainted air, or some of the other methods of infection which make Typhoid, when treated in the homes of the poor, so frequently contagious. The "bin" in question was reported by the District Inspector (I was away from the city for my holiday when the first case occurred), as being "foul, deep, uncemented, and unventilated." The Chief Inspector brought its condition under the notice of the Sanitary Committee, and took steps to have it emptied, cleansed, and altered.

Owing to the wholesale contamination of the contents and "bins," &c., with typhoid excreta (the customary method of "disinfecting" them by sprinkling on a little carbolic powder, being for all practical purposes quite ineffective), I have endeavoured to secure the cremation of the excreta in all cases. The method recommended and now very largely practised with good results in the City, being to receive the excreta in vessels containing sawdust soaked in paraffin, to empty the contents into an old dish or pan, cleanse the vessel with more paraffin, pour this on to the mixed sawdust and excreta, and burn up the whole. No disinfectant known to me is so efficacious as fire. We have still to arrive at some satisfactory method of dealing with the urine of typhoid patients, in which the specific bacilli are also commonly voided.

Speaking from observations extending over so brief a period, it would be absurd in me to pretend that I had completely satisfied myself as to the causes of Enteric Fever in Norwich. It must be remembered that the City has been a relatively populous place for half a score of centuries; but in collating the above facts and statistics I feel sure that I am adopting the right method of arriving at trustworthy inferences. Another year I trust I may be able to advance more definite information: for the present, prudence and considerations of space, limit me to this bald presentation of facts and statistics relating to the outbreaks. From them the reader is invited to make his own inferences.

Puerperal Fever.—Four deaths from this dangerous child-bed fever were registered during the year, 13 cases altogether were notified. Last year, curiously enough, the number of cases notified was precisely the same; the deaths, however, were twice as numerous, viz. eight. I continue to forbid the nurse or midwife in attendance to go to another confinement for the period of at least one month, and then only after a thorough cleansing and disinfection of her clothing and person, and as far as possible, dwelling. To the formal letter of warning I usually add a paragraph, stating that if the warning be neglected and other cases occur, I shall advise the Sanitary Authority to institute legal proceedings. The medical practitioners in the City, are, I am happy to testify, scrupulously careful in adopting all reasonable precautions, chief of which is, of course, a temporary cessation of obstetric practice. Puerperal Fever being a preventible disease, which can, unquestionably, be very largely prevented by the adoption of rigorous antiseptic precautions in midwifery practice, we are entitled to look for a diminution in the number of cases annually reported. More complete control over midwives, as well as a better knowledge among women generally of the manner in which the disease is propagated, must, however, be secured before we can legitimately expect to see Puerperal Fever disappear from our sanitary records.

Erysipelas is not notified to me, and therefore I only know, as a rule, of its existence through the death returns. During the year two deaths were registered as being due to this disease, in 1894 there were just six times this number. I still do not find myself able to recommend the inclusion of Erysipelas in our list of notifiable diseases. Several of the practitioners in the City favour me with gratuitous notifications, when the disease breaks out among their patients, and in this way we have been able to have some serious drainage and other sanitary defects remedied.

Measles.—This disease, I am sorry to have again to say, is not notified to me. It is both a dangerous disease in itself, particularly on account of its complications, and a source of serious administrative trouble, alike to the Officials of the Public Health Service, and to all concerned with the control and management of Elementary Schools. It is chiefly these latter circumstances that have led me to so persistently advise your Authority to voluntarily agree to pay for the notification of *first cases of Measles in separate dwellings*: for it is only in this way that we can secure early knowledge of the formation of new foci of infection, and warn the school authorities to exclude all children from the affected household. The alternative is to go on closing the schools whenever the disease affects a lodgment among the children. Now personally, I prefer rigorous exclusion of children coming from infected dwellings, to closing a school, and believe it would prove in the long run a more effective as well as less expensive method of preventing the development of an epidemic; but to be effective it must be associated with such a system of notification as I have, and do recommend. I still remain sanguine that on further consideration you will see the prudence and economy of doing what I suggest. This matter has been for three successive years brought under your notice, and is to come up for consideration again. The Local Government Board tells us by letter dated January 29th, 1896 that provided a sufficiently extended period were given to a trial of the system of notification of first cases of Measles in separate dwellings "the Board would watch any such trial with much interest." During the past year there were 27 deaths attributed to measles, 24 of them in the last quarter of the year, when the epidemic started which has lasted well into the present year. In 1894 there were 23 deaths recorded. It is probable that these figures require multiplying by eight or ten to give us anything like the total number of cases, we had to deal with (up, as regards the past year, to December 31st).

Whooping Cough swept off 53 children during the year (18 in the first, 14 in the second, 14 in the third, and 7 in the fourth quarter). This again is a highly infectious disease, about the prevalence of which, as a rule, I acquire the most reliable information from the death returns. Returns are sent in from time to time from the Board Schools of children known to be absent on account of Whooping Cough, but as is the case with Measles, the information does not reach me sufficiently early to be of much practical value in preventing the disease from spreading. I should personally welcome a system of notification of first cases of Whooping Cough so that I could secure rigorous exclusion from the schools of all childen living in infected dwellings, and also some disinfection of these houses after the patients had "weathered" the disease.

Diarrhœa was very prevalent during the late summer and early autumn no less than 181 deaths being due to diarrhœal diseases, according to my computation, and 156 according to that of the Registrar General (the corresponding numbers in 1894 were 66 and 43). During the first quarter of the year 3 deaths were registered, in the second quarter there were 8 deaths, in the third quarter no less than 141 were registered, and in the last quarter the number fell to 29. Of the 141 deaths from diarrhœal diseases registered in the third quarter, 27 occurred in July, 83 in August, and 31 in September. I attribute our high mortality-rate from diarrhœal diseases, to the effects of continued high temperature on a filth-sodden soil, to breathing an atmosphere largely tainted with the effluvia arising from the putrifying excrement preserved about the dwellings in pans and bins, to the common practice of storing food in the actual living rooms of the lower class dwellings, to careless dieting, and to general insanitary home surroundings. I have no satisfactory evidence that the water supplies exerted any specially favouring influence.

Influenza.—Twenty-nine deaths were certified to be either directly or indirectly due to this disease; in 1894 the corresponding number was 71.

THE TUBERCULOUS DISEASES.

(Forms of the disease commonly called "Consumption.") 156 deaths were certified to be due to Tuberculosis of the Lungs (Phthisis) and 99 to other forms, making in all 255 deaths from the tuberculous diseases during the year. In 1894 the total number of deaths was 263, and in 1893 it was 250. Taking one year with another we get a remarkably level average of from 250 to 260 deaths occurring annually in Norwich from these largely preventible, and to my thinking, catchable diseases. Reference to Chart II. at the end of this book, will shew that the tuberculous diseases were persistently fatal throughout the year; the slight variations which occurred the mortality being brought into relief by examining concurrently the Chart for 1895 with those appended to my Reports for 1894 and 1893. We are thus confirmed in our belief, admitting practically of no degrees of qualification, that the *tubercle bacillus*, (the micro-organism of whose activity these diseases furnish us with a reliable measure and all too certain indication) flourishes among us. It flourishes practically wherever people are crowded together and may be said to be permanently intrenched in all old cities. This lethal bacillus which has cost and is still costing us as a nation, directly and indirectly, millions of money, and goes on reaping its untimely harvests of human creatures year after year, is much favoured by dark, ill-ventilated places, and by overcrowding in any dwellings. Fresh air and sunlight are happily inimical to, and, in fact, kill the bacillus; which circumstance explains why sanitary experts lay such stress upon the importance of securing good air space, and freedom for the play of sunlight about and in a dwelling. In the 1894 Report will be found a full abstract of a paper on the application of "State Prophylaxis" to the tuberculosis diseases which I contributed to the 8th International Congress of Hygiene and Demography held at Budapest.

In my Report for 1893 you will remember that I offered to gratuitously disinfect rooms, etc., which had been occupied by tuberculous people after the removal by death or otherwise of the victims of the bacillus, and that I found during the year 1894 only five families anxious to avail themselves of the offer. I expressed opinion that as time went on, there would arise a heightened appreciation of the value of the offer, and that the duty of protecting others from possible infection would be " more generally enforced by the members of the medical profession and better understanded of the people." During the latter half of 1895 I directed (without waiting for the people to make application themselves) the Sanitary Inspectors to offer gratuitous disinfection of rooms at all houses in which deaths from Tuberculosis of the Lungs (Phthisis) had occurred. From these combined influences I am pleased at being able to state that 39 disinfections were carried out. This number I shall hope to see largely increased during the present year, and the practice ultimately become demanded by public opinion in all cases instead of being as at present recommended by members of the Public Health Service.

It must ever be borne in mind that the *tubercle bacillus* is being constantly coughed up in the expectoration of consumptive people, and that it is commonly present in the discharges from a tuberculous gland or abscess, etc. Now if the expectorated matter be left to dry, it forms a bit of fine dust, which may be kicked or brushed up into the air, and containing as it does. the dried but still potentially active bacilli, this dust may be the cause of these bacilli being introduced into the lungs of others, or the expectorator of the infected matter, may in this way re-infect himself. Consequently it becomes a piece of enlightened self-interest on the part of the consumptive, as well as a duty to one's fellows, to take care that all infected expectorations or discharges are rigidly disinfected, or what is better, promptly burnt. It is not so much the breath of a consumptive that is to be feared—one may sit for example in the same room with him without danger if his habits be cleanly—*what is to be feared is the matter which he coughs up.* Spitting about in public places and vehicles, becomes, in addition to what it is at all times, a digusting habit, a dangerous one as well, when the spitter is a consumptive; the habit should be rigorously discouraged, alike in the interests of good manners, and of the general health. The consumptive should expectorate into a damp rag, which, when he gets home, he can easily get burnt.

Many people inherit a pre-disposition, that is, a heightened liability to fall victims to this fell disease, but many otherwise healthy people favour its advent in themselves, through lowering their general healthiness, by living under conditions of an insanitary character, such as ill-lighted, dusty, and more particularly *imperfectly ventilated* shops, work-rooms, houses, and offices. A person enjoying fairly good health, may, and pretty certainly does, take in *tubercle bacilli* from time to time with his food or breath, but the resisting power of his tissues is commonly sufficient to cope with, and render the invaders harmless; the person, however, whose health is below par, and whose tissue resistance is consequently enfeebled, only too often succumbs. The great fortifiers of health, and in particular the great preventatives of consumption are *good food*, *sunlight*, *and fresh air* in generous abundance.

When a member of a household has fallen a victim to one or other of the tuberculous diseases it is needless, and cruel too, to treat him as a social leper. If rigid precautions are taken to prevent his expectorations, etc., from ever drying, and if the rooms occupied are effectively ventilated, he may share in the ordinary life of the family. He should, however, sleep in a bed by himself, and where practicable, in a separate room: this room should be as large as possible, and the occupant should acquire the habit of sleeping with the *window always open*. Fresh air never killed anybody, but the want of it annually slaughters thousands. The window should be kept open—half an inch even will suffice—*at the bottom.* Harmful coldness will not be experienced even in winter if the bed be judiciously clothed with light warm materials, e.g., good eider-down quilts; and any dampness may be counteracted with a fire. Once more let me say the first necessity for a consumptive is fresh, and ever fresh air. It is when a bacillus-riddled victim of tuberculous disease becomes too weak to attend to himself carefully, in what is known as the third stage of the disease, that there is the great risk of infection, particularly of his room, and hence the desirability of having that same carefully disinfected—when pale Death have entered with equal foot, whether it be into the hovels of the lowly, or the halls of the great.

It is unfortunately not from his fellows only that man has to dread infection with the tuberculous diseases. It is conveyed to humans from other animals, notably the bovines. Cattle, particularly dairy cattle, if kept in badly ventilated sheds fall ready victims to tuberculous disease, and may, through their milk, cause its development in milk-feeding children. It is an only too sufficiently notorious fact that children suffer from intestinal tuberculous disease with special severity at the milk-feeding ages; and there is little doubt that the disease is conveyed to very many of them in the said milk. In all cases *milk should be boiled* before being used—boiling for a few minutes kills off such bacilli as may be contained in it. It does not lessen the nutritive quality of the milk, and for very many increases its digestibility. If a child be fed from the first with milk that has been boiled, it cannot very well acquire a taste for milk in the "raw" condition. Without question the feeders of children could protect many lives by simply taking the trouble to boil milk before giving it to their charges. It is but wise in older people to consume it boiled too. There is also some risk in eating the flesh of tuberculous animals, and this risk is not entirely banished by the process of cooking—the interior parts of large joints never reaching a sufficient high temperature to kill bacilli. These facts although long known to sanitary experts, have recently received confirmation in the Report of a Royal Commission (since reappointed).

The remedy as respects dairy and fed cattle is to be found in the employment of a very effective test of the presence of tuberculous disease in an animal. I refer to the infection of "Tuberculin." If the animal be tuberculous, a marked alteration in the temperature and other symptoms follow the injection; and the obvious corollary of such indications of disease should be the prohibition of the sale of the milk or flesh of such animals for human food. It should be the duty of specially appointed veterinary surgeons to make periodical inspections of all cattle—to order their destruction when desirable (fair compensation to be given in all cases where the owner has taken reasonable care to give no encouragement to the disease) and to supervise the disinfection of all stalls, sheds, etc., which have been occupied by the affected animals. But one fears that these simple precautions will only be adopted when the electors of this Realm of England have realised "that public health *is* public wealth," and make the promotion of national healthiness "the supreme law."

I append here two instances of infection with Tuberculous disease in this neighbourhood which have come to my knowledge within the past year—and take this opportunity of saying that I shall be very greatly obliged to medical men practising in and around the city if they will kindly favour me with the facts relating to any other instances of tuberculous infection which may come under their notice.

(a) Mrs. F——, 55 years of age. Family history:—Lost one cousin from Phthisis, otherwise good. Always healthy up to the early spring of 1895, when a cough developed; auscultation revealed fine crepitations over the apex of the right lung, and the mischief steadily progressed. She is now dead. In the autumn of 1894 she nursed a daughter, who died of acute Miliary Tuberculosis, in a small ill-ventilated room. I saw this daughter in company with and at the invitation of her medical attendant, and warned the mother of the risk she was herself running; at which warning Mrs. F—— was inclined to scoff. After the death of the daughter I offered to have the room she had occupied disinfected, and of this offer the mother declined to avail herself.

(b) Four members of a family. In the past history of this family only one death from tuberculous disease—that of the grandfather (on the mother's side) from Phthisis. Three of the four deaths occurred in one house, and two of them in the same room in this house. Just before the family in question entered into possession of the house, it had been vacated by a woman suffering from Phthisis (she died three months afterwards) who was very ill at the time she left it. The house *was not disinfected* before being occupied by the new tenants. No member of the incoming family was in any way ailing. A daughter aged 21, subsequently sickened and ultimately died of Phthisis in November, 1891; another daughter aged 16, died in April, 1892; the mother aged 52, died in March, 1893; and a fourth daughter September, 1894, after leaving the, to them, fatal house (quite ill at time of removal).

FEVER HOSPITAL.

Out of 285 persons notified to be suffering with Scarlet Fever during the year no less than 215, or 75 per cent. were treated in the Isolation Hospital: a striking testimony in itself of the growth in public favour of the "Fever" Hospital. In 1893 the proportion of cases sent to the Hospital was barely 25 per cent. of the total number; in 1894 the proportion was 60 per cent., and last year 75 per cent. It has been, and continues to be, a source of great satisfaction to the Hospital Sub-Committee to find that the confidence of the public in the administration of the Institution has never wavered, and to know that the confidence has been and is deserved. Five of the cases proved to be Diphtherias associated with rashes, so that the actual number of cases of Scarlet Fever treated was 210 at the following ages :—

Years.	under 1	1 to 2	2 to 3	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	10 to 11	11 to 12	12 to 13	13 to 14	14 to 15	16	18	20	21	26	27	28	33
No. of Patients.	2	17	19	13	29	18	19	25	15	11	13	9	5	2	2	4	1	1	1	1	1	1	1

91 of these were males and 119 females. There were four deaths from Scarlet Fever. The first occurred in a boy seven years old who had intractible Nephritis, with subsequently, Hypostatic Pneumonia, and Urœmia; the second fatal case was that in a girl four and a-half years old whose Scarlet Fever was of an acutely malignant type, and who quickly succumbed to Scarlatinal Septicœmia; the next death occurred in a boy two and a-half years of age from Acute Pneumonia—he had suffered much from Rickets and was enfeebled on admission (three other children in his family, the mother told us, had been "took off sudden with their lungs"); the fourth case was very similar to the second, only that the patient was a boy, aged seven:—Malignant Scarlet Fever, Septicœmia, death. The hospital death-rate for Scarlet Fever was just a fraction *under two per cent.* The death-rate among the cases treated at home just a fraction *over eight per cent.* The complications were much fewer and less grave than in the two preceding years. We had only once to crowd a ward, and that crowding was followed by quite a small crop of post-scarlet Diphtherias. The Diphtheria being introduced in the person of a lad certified to have Scarlet Fever (not seen by myself before admission), and causing us not a little temporary anxiety. During the year I had 10 cases of Scarlatinal Diphtheria and found in them the prompt use of Schering's Anti-toxin most efficacious. All the patients recovered satisfactorily. In fact, I have acquired a most comforting source of satisfaction in the confidence, I feel myself justified in placing, for all such cases, in Anti-toxin. No remedy has, in my hands, yielded such satisfactory results. This, no doubt, is largely due to the fact that we were enabled to use Anti-toxin at the very outset of the Diphtheritic symptoms. Anti-toxin was certainly more immediately, and markedly beneficial in these cases than in cases of uncomplicated Diphtheria. I am in the habit of injecting small (20 m) and decreasing doses in the back, below the scapular region, every 4 to 6 hours. It has rarely been necessary to give more than three injections, commonly, two have sufficed, in one instance one proved sufficient. On the other hand the five cases of Diphtheria (without previous Scarlet Fever), did not prove so rapidly or completely amenable to treatment with Anti-toxin. For one thing the treat-

ment was not applied at so early a state ; the patients required more frequent repetitions of the injections and their continued application for much longer periods. Four of the five cases made very good recoveries, the fifth died from hœmorrhage and blood-poisoning during apparent convalescence. He had a severe attack of Diphtheria, involving the larynx and trachea, in fact the mischief extended so far into the bronchi that Mr. Donald Day, of whose surgical skill I wished to avail myself, was unable to advise tracheotomy. Anti-toxin was given every six hours and for two days the patient hovered between life and death ; he managed, however, to cough up a quantity of shreddy membrane and if not immediately better, for the treatment, he slowly grew better. A great amount of inflammatory mischief was going on at the time of the patient's admission in the glands, beneath the jaw at the left side of the neck. This inflammatory mischief implicated the surrounding tissues, so that he soon had a swelling there, the size of a Norfolk biffin ; which became, despite constant fomentation, as hard as a stone and never appeared to in any way soften on its external aspect. The boy progressed remarkably well in all other respects. He grew bright and cheerful, ate and drank well, sat up in his bed and generally looked to be on the high road to complete recovery. The indurated glandular and matted inflammatory tissue remained, however, as hard and almost as large as ever, beyond the actual physical inconvenience of it the boy complained neither of pain in it, nor real discomfort from it. Local applications apparently exerted no influence upon the swelling, but it softened on its internal aspect, burrowed toward the gullet, made an opening there and in doing so apparently eroded a small vessel, for there was continued and considerable hœmorrhage ; the boy unfortunately swallowed the matter, which escaped, and within forty-eight hours died with all the symptoms of blood-poisoning—seventeen days after his admission.

Three "return" cases occurred during the year, one from the reappearance of a nasal discharge (apparently cured at the time the patient was sent out); another for no ascertainable reason ; the presumably infecting agent (a lad) being apparently quite free from infection ; and the third in a girl, who borrowed, without the knowledge of the Matron, a hat from one of the nurses to go home with, and apparently so conveyed infection to her sister—the patient herself had peeled freely and completely, had no renal trouble or nose or throat mischief at the end of stay in Hospital of seven weeks. The nurse who lent this hat—the only article of clothing the patient wore that had not been through the steam disinfector—was severely reprimanded and such an act of imprudent good nature will not recur. As bearing upon the question of 'return' cases I must mention some circumstances which saved us being credited with another. I ordered a certain child who had been in the Hospital for over six weeks, and had quite recovered to be sent home on a Thursday, but as I found she was the only case fit to be discharged on that special day, I decided to keep her until the following Saturday (to save cost of coal, &c., in heating up steam disinfector), when there would be others. Well, on that very Saturday morning I received a notification of a second case in the patient's home, and removed the sufferer before the first case returned. Now, had my patient been discharged on the Thursday that second case would, without doubt, have been attributed to the home-comer.

The Hospital Committee has, at my suggestion, been carefully considering the advisability of so increasing our accommodation as to enable us to treat Enteric Fever in the Hospital. Even *with the existing wards we might treat a dozen cases, provided that suitable and sufficient sleeping and other accommodation could be provided for the nurses*:—the "administrative block" being altogether on too cramped and restricted a scale. I hope the Committee will shortly advise the Council to expend a moderate sum on enlarging the accommodation for nurses and erecting a suitable porter's lodge with a *properly-constructed discharging-room*, etc., if they do not advocate what I must continue to strenuously recommend, viz., a considerable increase in the ward accommodation at the Hospital as well. I am most anxious to extend its usefulness, and am quite sure that if we could take in, say a score of cases of Enteric Fever, we should save the occurrence of quite as many more, to say nothing of the shattered health, etc., that so often results from this disease, unless most carefully treated. As it is now, I believe, Enteric Fever costs the ratepayers (through relief granted by the Guardians) as much as the interest on a loan for the erection and furnishing of such modest additions as I suggest would amount to. (Last year I find from a return kindly furnished by the Guardians, that 21 parish cases of Typhoid, treated at home, cost the ratepayers £53). The Hospital Sub-Committee continues the policy adopted in 1893 of offering every inducement to the citizens and ratepayers of whatever station, to make use of their own Hospital whenever a need of it arises. The Committee retains, however, the right of making charges in special cases. So far, we have found the fairly well-to-do people who have made use of the Hospital, quite ready to contribute to the cost of its maintenance, and in no single instance, it is gratifying to state, has the Committee had to enforce payments. Non-residents are, of course, regularly charged for. The monthly and quarterly accounts for provisions, etc., continue to be very carefully checked by Mr. Coleby, who differentiates the expenditure under various headings in a special ledger. All monies received from patients have passed through the hands of the City Accountant, who keeps a separate record of them. Throughout the year the wards have been made bright and cheerful with flowers and plants presented by the relations and friends of past and present inmates, very many of these donors being quite poor people. The Toy Fund has, as usual, been kept up by the voluntary contributions of friends of the institution, grateful parents and patients, and the proceeds of a lecture on "The Poet of the Day," given by myself. The grounds about the hospital are improving in appearance, as is the garden, in fertility. The policy of regularly employing a gardener for several days a week, has been justified by the results achieved, and it is one which the Committee will doubtless continue. 2,674 articles were passed through the steam disinfector.

FOOD SUPPLIES.

SLAUGHTER HOUSES.

At my suggestion a sub-Committee of the Sanitary Committee made, during the year, an inspection of all the slaughter houses in the city, and subsequently made some recommendations in a Report upon them. One of the results of this tour of inspection has been a serious effort to get the Slaughter House Register overhauled, and the relations of the butchers to the Corporation placed on a better footing. In the past the registers have been imperfectly kept, and for the future, at any rate, a much more rigorous supervision will be maintained. The Committee directed copies of the new Bye-Laws relating to slaughter houses to be printed on big cards for the purpose of being hung up in each slaughter house. The Committee found the majority of the slaughter houses in a "passing clean" condition, but many ill-situated, and yet more inadequately ventilated. The Committee advised that the requirements of the new Bye-Laws respecting covered vessels for the offal, etc., be insisted upon, and that the prompt removal of all garbage be made obligatory. A Butchers' Association has been formed, and it is pleasant for me to say that the said Association has exhibited a friendly and reasonable spirit, and has expressed its general approval of the new Bye-Laws. The slaughter houses have continuously improved since I have been in the city, and are now, thanks to the activity of the Chief and Assistant-Inspectors, in a better general condition than they have ever been before. Adequate inspection of meat supplies, however, we can only hope to secure when we provide ourselves with a public abattoir, and are able to have all the animals slaughtered for food, killed and dressed there.

Dairies, Milk-shops, and Cow-sheds.—These are undergoing systematic inspection, and where needful and desirable, registration. As is the case with the slaughter houses, our new Bye-Laws will enable us to effect very valuable improvements as time goes on. Of course, we can only deal with cow-sheds within our own boundaries, and the bulk of our milk comes from dairies in the County over which we have no control.

Bake-houses are being looked after, and very generally inspected. In these we have been able to effect a large number of improvements.

The Fishmarket remains pretty much the nuisance it was last year, and in its present situation it is not likely to be anything else. The Engineer has had it more frequently flushed with water, but for structural reasons its condition is never likely to be satisfactory. Indeed, the said fishmarket reflects no credit upon the city.

SCHOOLS CLOSED DURING 1895.

Voluntary: Eaton, Dereham Road, St. Giles, three weeks each on account of Measles.

Board: On account of Measles, Avenue Road (infants), three weeks; Nelson Street (infants), three weeks; Nelson Street (junior), three weeks; Horn's Lane (infants), three weeks; Horn's Lane (junior), three weeks; Heigham Street (infants), three weeks. On account of Mumps, Angel Road (infants), five weeks (two closures); Bull Close (infants), two weeks; St. Augustine's (infants), two weeks; Prospect Row (infants), two weeks; Philadelphia Lane (infants); two weeks.

The effect of closing these schools was, on the whole, unsatisfactory. The closing of Eaton School, a rural one, being perhaps the most serviceable. I incline more and more to favour rigorous exclusion from, in preference to complete closure of the city schools in dealing with infectious diseases. The outbreak of Mumps was of an acute but transient character. Angel Road (infants) was closed the second time on account of Chicken-pox as well as Mumps.

REPORT OF THE CHIEF INSPECTOR.

TO THE MEDICAL OFFICER OF HEALTH.

Dear Sir,

The following is a brief summary of the work done during the year ending 31st December, 1896:—

3,628 Nuisances detected.
2,648 Preliminary Notices served.
636 Notices served by order of the Sanitary Committee.
1,520 Premises at which Nuisances have been abated.
2,981 Premises Reinspected.
606 Special Complaints received and Premises Inspected.
419 Letters sent to abate Nuisances.
4 Summonses issued.

The following are the principal Nuisances that have been dealt with:—

992 Orders served to efficiently trap yard drains with gullies.
408 Orders served to convert foul privies into W.C.s or pan closets.
394 Orders served to disconnect sink waste pipes.
370 Orders served to put foul bins into a sanitary condition.
314 Orders served to cleanse and unstop yard drains.
245 Orders served to repair surface drains.

163 Orders served to provide privy pans in cases of insufficient privy accommodation.
147 Orders served to repair defective privy pans.
123 Orders served to repair defectively paved yards.
107 Orders served to disconnect rain water pipes.
68 Orders served to repair privies.
50 Orders served to repair defective W.C.s
47 Orders served to provide efficient W.C.s
31 Orders served to repair dilapidated houses.
12 Orders served to repair defective eaves gutters.
10 Orders served to cleanse dirty houses.
9 Orders served to empty and cleanse cesspools.
8 Orders served to repair pumps.
8 Orders served to repair defective rain water pipes.
6 Orders served to remedy damp dwelling house walls.
6 Orders served to repair and reconstruct house drains.
5 Orders served to drain stables.

Infectious Disease.

485 Dwellings specially inspected.
188 Rooms fumigated.

Sanitas Fluid and Carbolic Powder have been given to householders free of charge in all cases of Infectious Disease for disinfecting purposes.

House to House Inspection.

276 Houses and premises have been inspected.
134 Nuisances were detected.

Yard and Court Inspection.

859 Visits have been paid to yards and courts.
47 Privies were found dirty.
47 Privies have been cleaned.
16 Surface drains were found foul and dirty.
16 Surface drains have been cleaned.

Slaughter Houses.

Number of Slaughter-Houses on Register, 42.

566 Visits have been paid to Slaughter-Houses and Premises.

The walls and floors of Slaughter-Houses were found dirty on several occasions, but were at once cleaned as directed by the Assistant Inspectors.

Three carcases of beef, two carcases of mutton, and bullock's livers shown in the table of Unsound Food were detected in Slaughter-Houses and seized.

In three cases animals viz., a donkey, dog, and pigs, were found kept on premises, and the same were immediately removed by the occupier as requested.

Markets.

The Fishmarkets have been visited and inspected daily, and the Vegetable, and Fruit Markets on Market days, but there has been no occasion to seize any unwholesome food.

Unsound Food.

The following have been destroyed being unfit for human food :—

3 Carcases of Beef.
2 Carcases of Mutton.
45 Stone of Beef.
10 Stone of Veal.
10 Bullocks' Livers.
71 Boxes of Kippers.
14 Boxes of Smelts.
49 Boxes of Oranges.
3 Bags of Winkles.
23 Peds of Shrimps.
3 Barrels of Shrimps.
2 Bags of Shrimps.
10 Boxes of Onions.
28 Bags of Cockles.
5 Boxes of Haddocks.
1 Box of Mackerels.

One unsound carcase of beef was seized in an ice-house in King Street.

This was undoubtedly intended for the food of man. Owing to the difficulty experienced in ascertaining to whom the carcase belonged legal proceedings were not taken. An order was obtained from a Magistrate and the carcase was destroyed.

Proceedings under the Sale of Food and Drugs Act.

No. of Samples.	Description of Samples.	Result of Analysis.	
		Genuine.	Adulterated.
25	Milk	22	3
10	Butter	10	0
1	Bread and Butter	1	0
36		33	3

Prosecutions.

Milk, 40 per cent. of Cream extracted, fined 2s. 6d.

Milk, 20 per cent. of Cream extracted, fined 2s. 6d.

N.B.—During four months of the year—owing to the death of Mr. W. A. Crook—the Local Authority was without a Public Analyst.

Common Lodging Houses.

The Common Lodging Houses have been periodically inspected during the year, and on the whole have been found to be conducted satisfactorily and according to the regulations. Surprise visits have been made in the night, but no overcrowding was found.

Registered Keepers.	No. of Lodgers.	Situation.
Thomas Brightman	8	Timber Hill
Charlotte Moon	26	Ber Street
Frederick Maicon	33	Ber Street
John Dambrock	33	Ber Street
John Crancher	24	Ber Street
George Wiseman	27	Cowgate Street
William Waterfield	24	Quay Side
Elizabeth White	18	Fishgate Street
	Total 193	

Water Analyses.

45 samples of water have been taken from pumps and draw wells.

1 sample of water has been taken from the Norwich Water Works Company's main.

21 samples were certified "Unfit for drinking purposes and injurious to health."

23 samples were certified "Passable."

In 17 cases the owners have supplied their property with the Norwich Water Works Company's Water.

In 2 cases the pumps have been locked up and an adjoining pump used, and in the remaining 2 cases arrangements are being made to provide a proper water supply.

Margarine Act.

150 inspections have been made.

In 17 cases Margarine was not properly marked and sold in accordance with the provisions of the Act.

The Salesmen were cautioned in each case; and the premises were subsequently visited, and labels were found fixed, and wrappers provided.

Cow Sheds, Milk Shops, and Dairies.

279 Visits have been paid to Cow Sheds, Milk Shops, and Dairies.

39 Applications have been received from persons to be registered to carry on the trade of a Milk Seller.

35 Applications have been granted.

10 Cow Sheds have been limewashed and cleansed as directed by Assistant Inspectors.

6 Manure Bins have been emptied.

18 Milk Sellers have been instructed to remove articles from their Milk Stores, the offensive eminations from which were calculated to contaminate the milk.

Bake Houses.

384 Visits have been paid to Bake Houses.

The number of Bake Houses on register is 192, 8 of which are situated underground.

At time of inspection many insanitary arrangements existed on premises, and notices have been served on owners to make necessary alterations, which have since been complied with.

Factories and Workshops.

66 Visits have been paid to Factories and Workshops.

28 Notices respecting insanitary arrangements have been received from Her Majesty's Inspector of Factories and Premises inspected.

The following sanitary arrangements have been made :—

13 Water Closets have been provided.

2 Privy Pan Closets have been provided.

4 Defective Floors have been repaired.

12 Cases of overcrowding remedied.

2 Premises limewashed.

1 Water Closet repaired.

1 Yard Drain repaired.

Scavenging.

During the year 17,176 loads of Privy Bin refuse have been removed by the night waggons, and 4,696 loads by the dust waggons in the day-time.

It is with a certain amount of satisfaction that I have to report that this work continues to shew steady improvement, not only is the work done with greater regularity, but there seems to be increasing satisfaction among the general public.

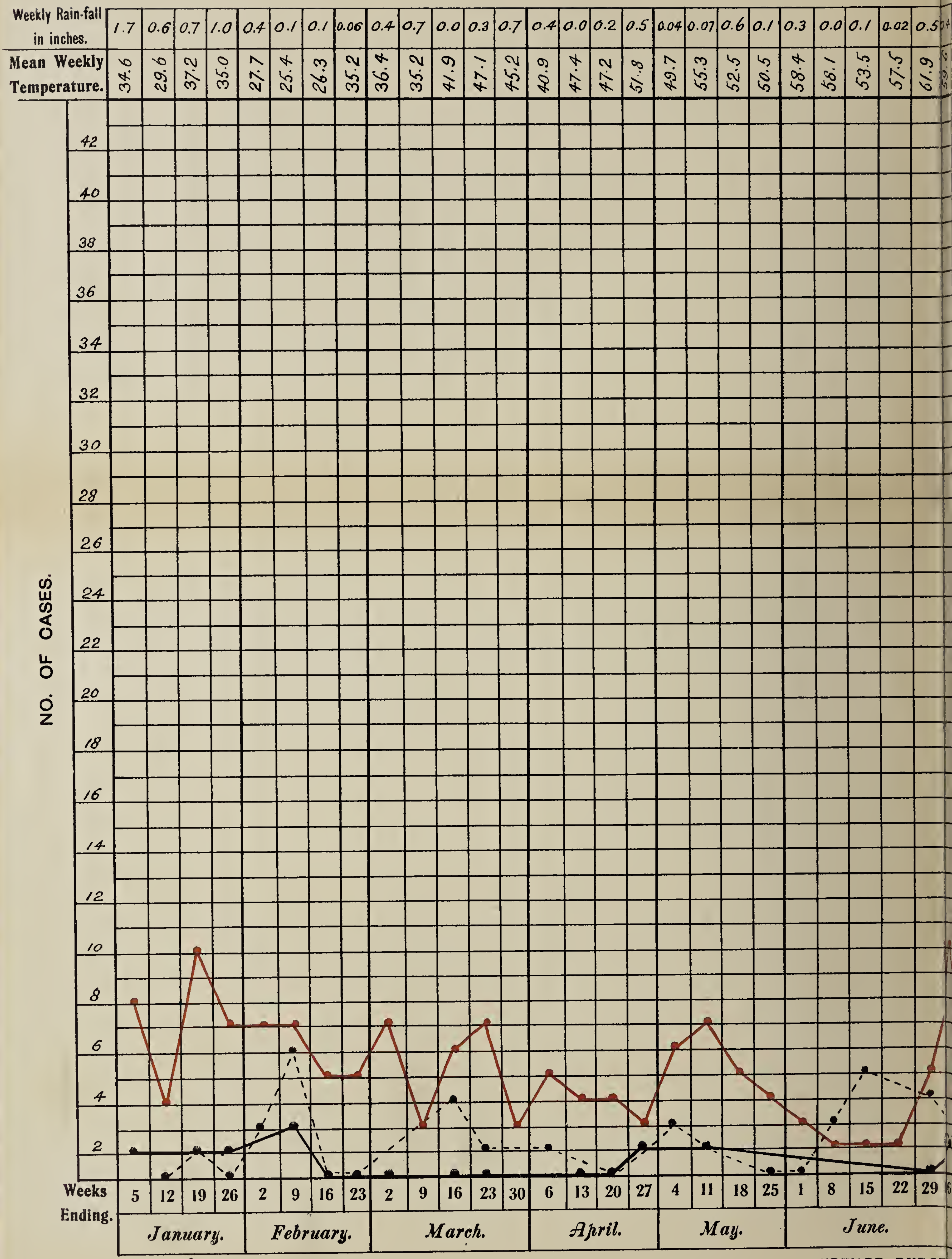
I am, dear Sir,

Obediently yours,

JOSEPH BROOKS,

Chief Sanitary Inspector.

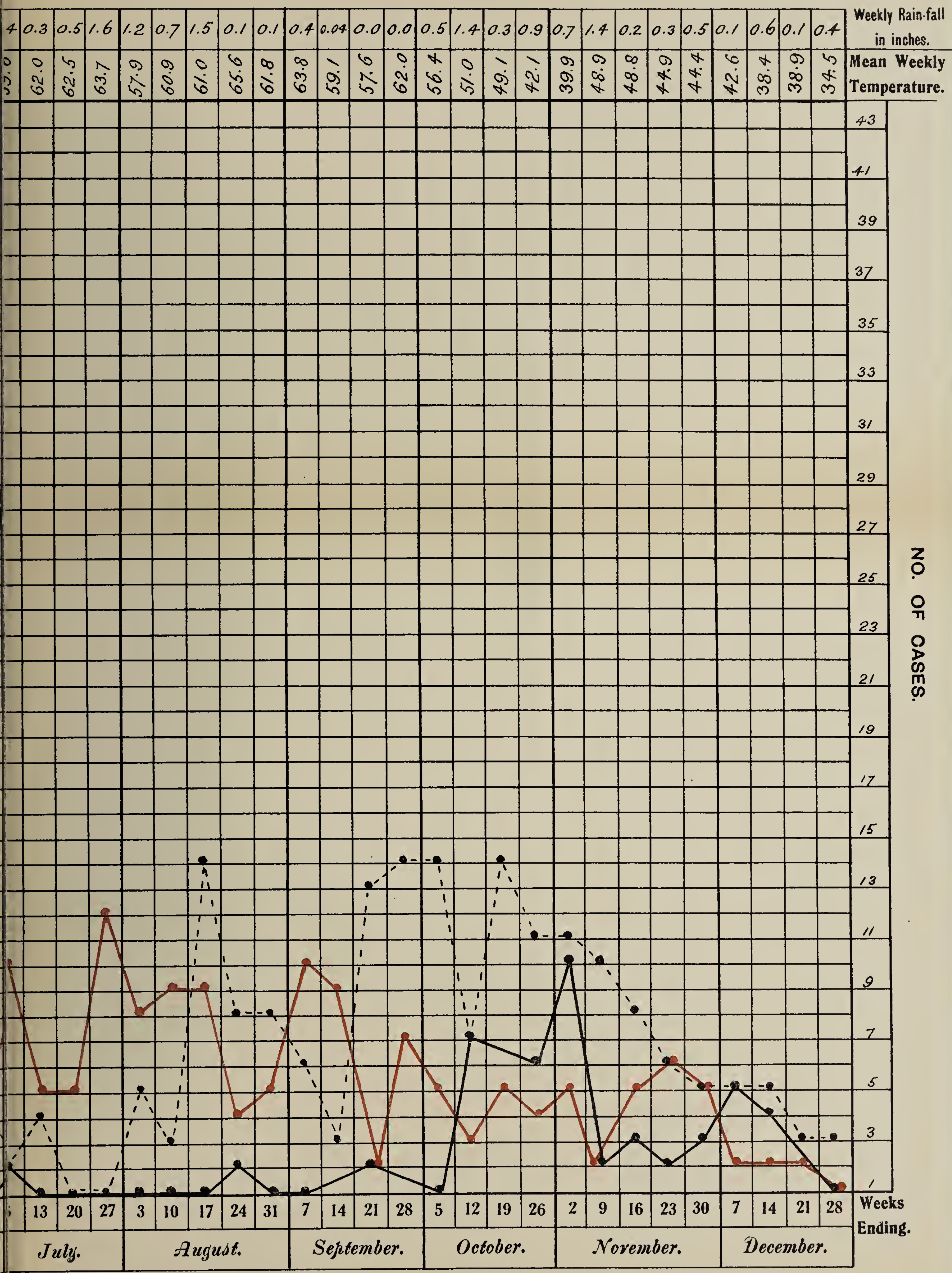
Notifications.
Scarlet Fever, RED
Diphtheria, BLACK
Enteric (Typhoid).



EDWARD BURGES

ver, BLACK DASHES. ●- - - - - - - -

Chart 1.
Notifications of Infectious Diseases.



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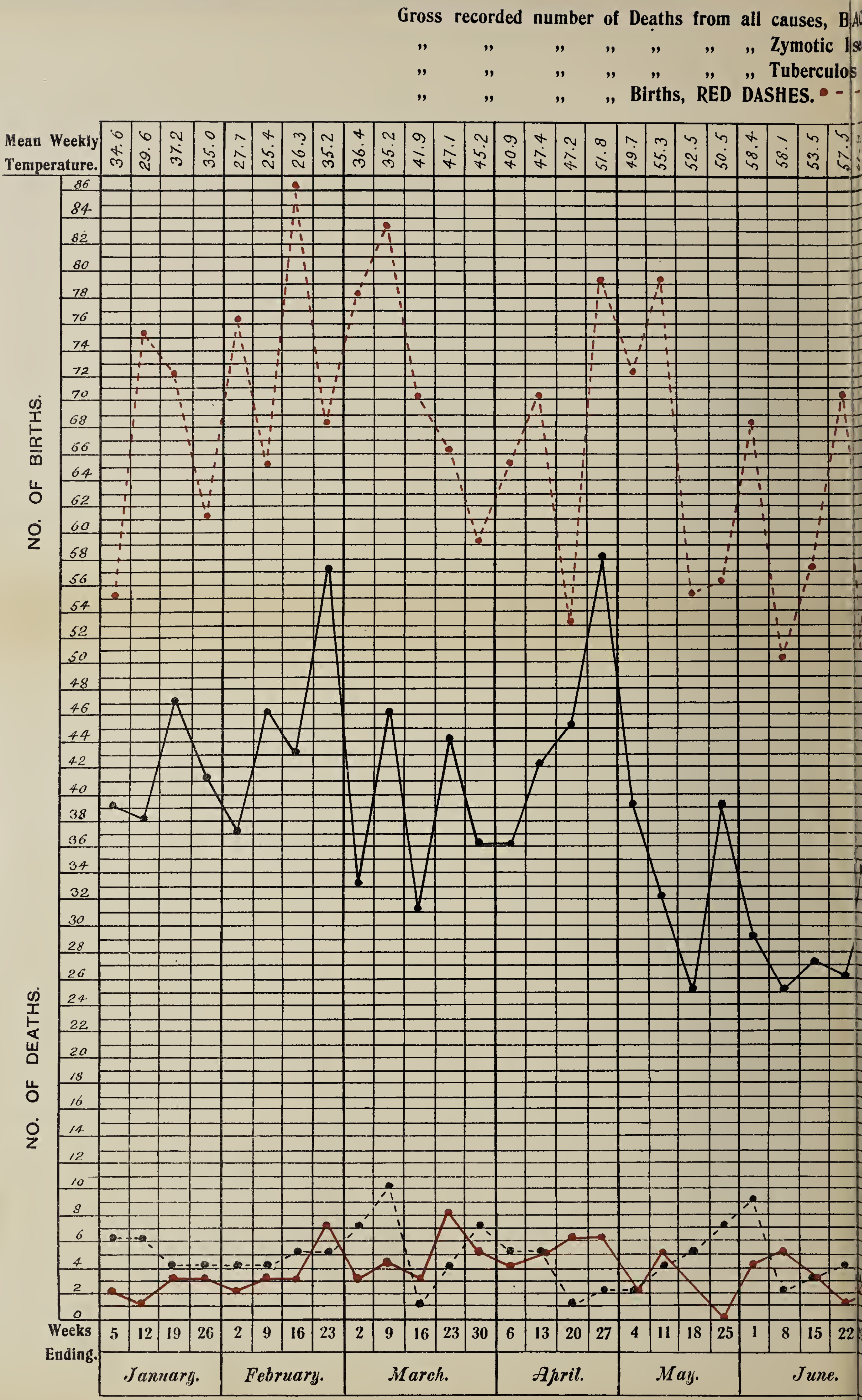
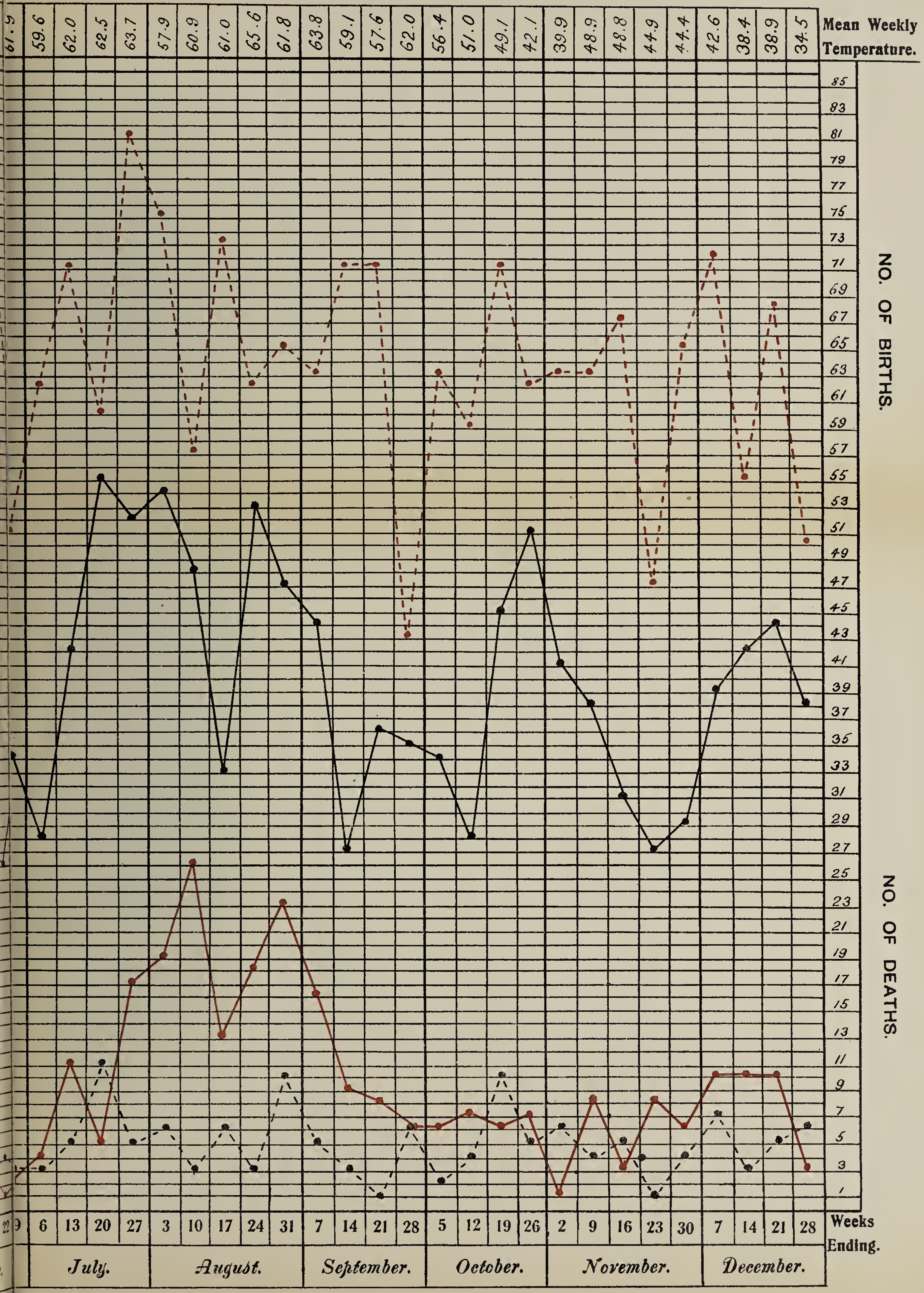

Gross recorded number of Deaths from all causes, B
" " " " " " " Zymotic
" " " " " " " Tuberculos
" " " " Births, RED DASHES.
Mean Weekly Temperature.
34.6
29.6
37.2
35.0
27.7
25.4
26.3
35.2
36.4
35.2
41.9
47.1
45.2
40.9
47.4
47.2
51.8
49.7
55.3
52.5
50.5
58.4
58.1
53.5
57.5
NO. OF BIRTHS.
NO. OF DEATHS.
86
84
82
80
78
76
74
72
70
68
66
64
62
60
58
56
54
52
50
48
46
44
42
40
38
36
34
32
30
28
26
24
22
20
18
16
14
12
10
8
6
4
2
0
Weeks Ending.
5
12
19
26
2
9
16
23
2
9
16
23
30
6
13
20
27
4
11
18
25
1
8
15
22
January.
February.
March.
April.
May.
June.

EDWARD BU

Chart 2.
Weekly Births & Deaths.



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